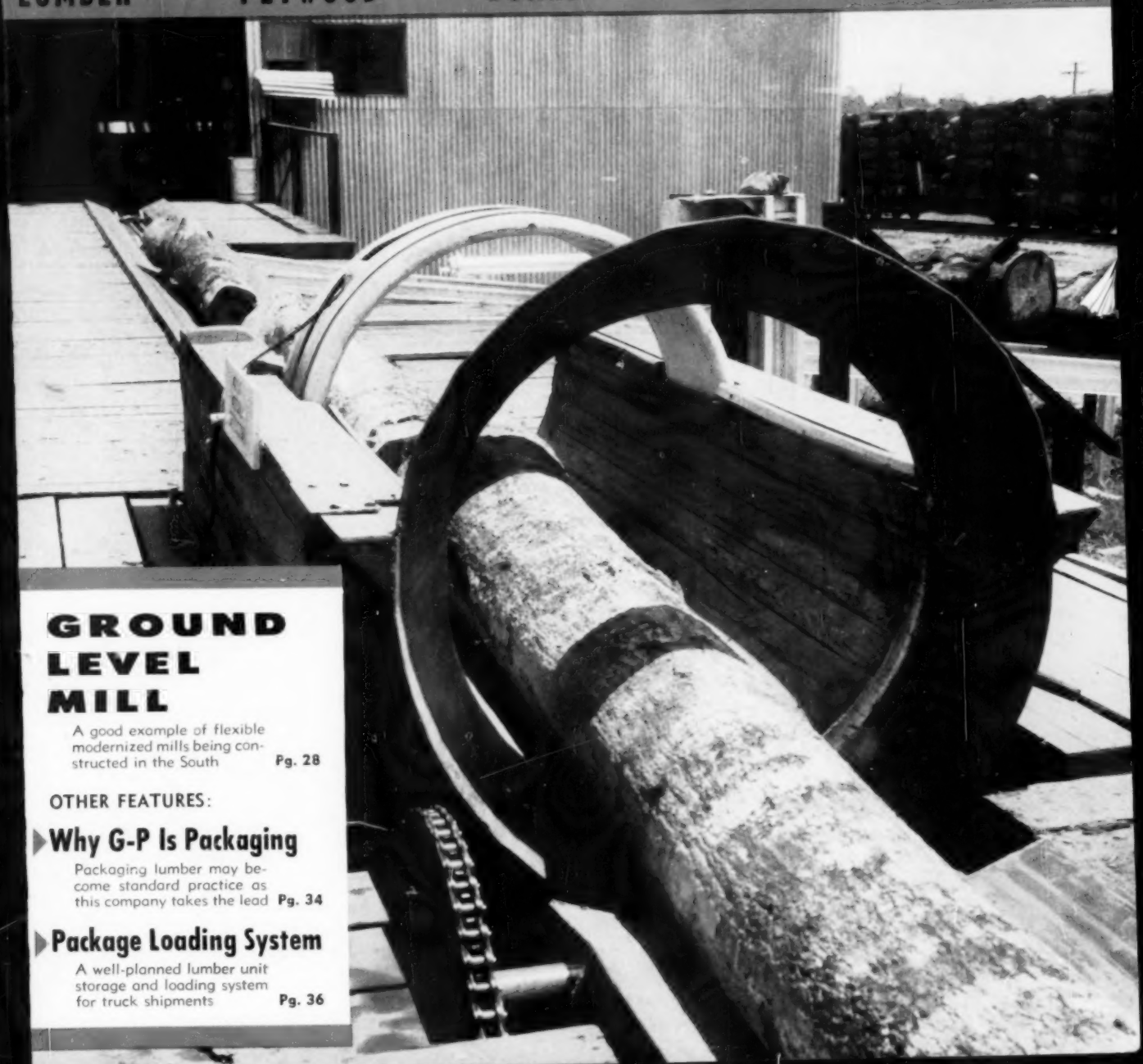
JANUARY, 1959

THE Lumberman

LUMBER PLYWOOD BOARD WOOD MANUFACTURING



GROUND LEVEL MILL

A good example of flexible modernized mills being constructed in the South Pg. 28

OTHER FEATURES:

Why G-P Is Packaging

Packaging lumber may become standard practice as this company takes the lead Pg. 34

Package Loading System

A well-planned lumber unit storage and loading system for truck shipments Pg. 36

J N

"End-Printing has proved to be a definite advantage in creating and maintaining sales of our lumber."

GERHARD F. NEILS
Sales Manager
J. Neils Lumber Company

• • •

The J. Neils Lumber Co., a division of St. Regis Paper Company, at Klickitat, Washington, operates two complete Irvington End-Conditioning Systems, including Irvington 66 End-Surfacers and Irvington Double-End Printing & Waxing Equipment.

IRVINGTON QUALITY

Irvington
MACHINE WORKS

In the Washington pine region at Klickitat, the final seal of quality applied to the common grades of pine lumber produced by J. Neils Lumber Company is the J. Neils name, deeply printed into the end-grain of each piece, then waxed for protection against weather and checking. The deep, clean appearance of the Irvington end-printed impression enhances the quality of the lumber, assures the customer that he is buying the best.

TWO PLANTS: 1808 N. E. 7th AVENUE, PORTLAND 12, OREGON • 3 COLFAX N. E., GRAND RAPIDS 5, MICHIGAN

LET'S TALK ABOUT EASE..

of LOG LOADER OPERATION

It was Northwest that pioneered the movement in the direction of ease of Shovel and Crane operation back in the days when operators had to *stand* at the controls on other machines.

To maintain full day operator efficiency, Northwest engineers developed and pioneered the "Feather-Touch" Clutch Control. This device utilizes the power of the engine to throw the heavy Drum Clutches. Over the years the "Feather-Touch" Clutch Control has been refined and improved to a high point of efficiency.

Here, ease of operation is made possible by a simple, understandable, mechanical device—just a drum and brake band and the necessary linkage—nothing more. It is completely free of complicated and delicate mechanisms. There are no long lines of tubing, no pumps, no compressors or valves—nothing to fill! It is unaffected by weather or temperature and it requires no special knowledge or outside help for adjustment. The action of the clutch is in direct ratio to the movement of the operating lever and the operator does not have to maintain pressure on the operating lever to keep the clutch engaged. It is extremely sensitive and the *true feel of the load* is always present. Release is positive and straight manual control can be introduced at any time.

On a Northwest the operator knows where he is every second of his operating cycle. At once he has smooth, effortless control with freedom from the maintenance problems that come with complicated control devices. This means greater output and greater profit for the contractor. The "Feather-Touch" Clutch Control is pictured in detail in Northwest catalogs. We'll be glad to send you one on the size machine you need.

NORTHWEST ENGINEERING COMPANY
1510 Field Bldg., 135 South LaSalle Street, Chicago 3, Illinois

NORTHWEST *Always Ready to* **GO**

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THE MAN FROM GP IS HERE

"Valves are sticking. Call the GP man."

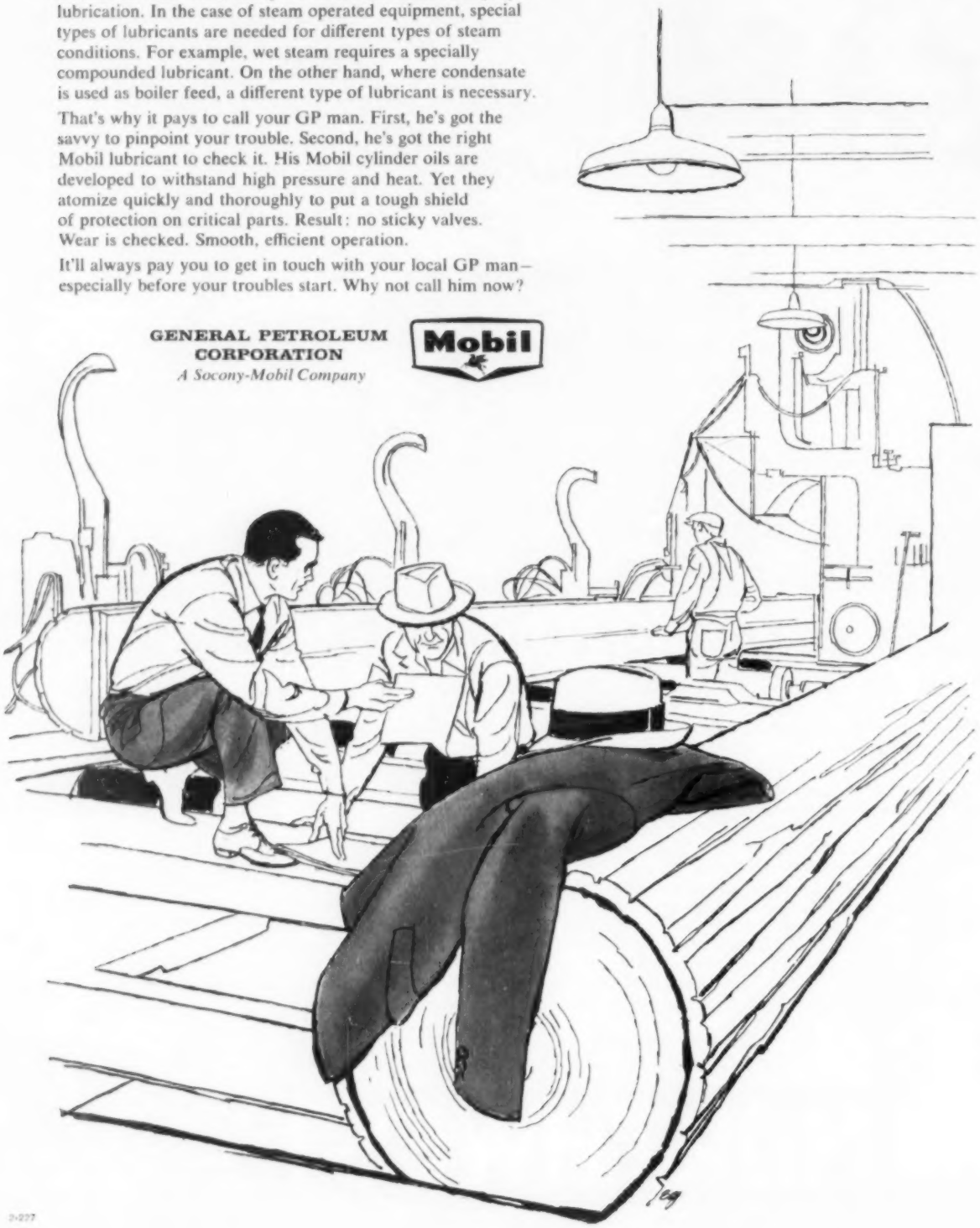
When valves start sticking on your shotgun, you've got trouble. In most cases, sticky valves are the result of improper lubrication. In the case of steam operated equipment, special types of lubricants are needed for different types of steam conditions. For example, wet steam requires a specially compounded lubricant. On the other hand, where condensate is used as boiler feed, a different type of lubricant is necessary.

That's why it pays to call your GP man. First, he's got the savvy to pinpoint your trouble. Second, he's got the right Mobil lubricant to check it. His Mobil cylinder oils are developed to withstand high pressure and heat. Yet they atomize quickly and thoroughly to put a tough shield of protection on critical parts. Result: no sticky valves. Wear is checked. Smooth, efficient operation.

It'll always pay you to get in touch with your local GP man—especially before your troubles start. Why not call him now?

GENERAL PETROLEUM CORPORATION
A Socony-Mobil Company

Mobil

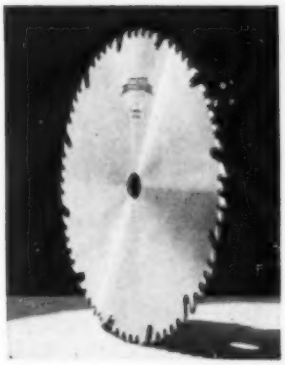


D-927

Feed it and Reap*

*Better Production in Hard or Softwood, Plywood, Hardboard, Plastics, and Composition Materials.

SIMONDS New No. 55 General Purpose Carbide-Tipped Combination Saw



24-hour sharpening service and prompt re-tipping and repairing available from all Simonds Factory Branches.

The smoothest edges you ever cut . . . so smooth they need no sanding — that's the kind of rip, cut-off and mitre results you get with the SIMONDS GENERAL PURPOSE CARBIDE-TIPPED NO. 55. *And prices for this general purpose saw are low!*

Edges are smooth because a new type tooth has been engineered with extra hook for faster, easier feeding and special fitting that eliminates 50% of side drag or friction. *Naturally*, the saw cuts freer, requires less power, and there's no burning.

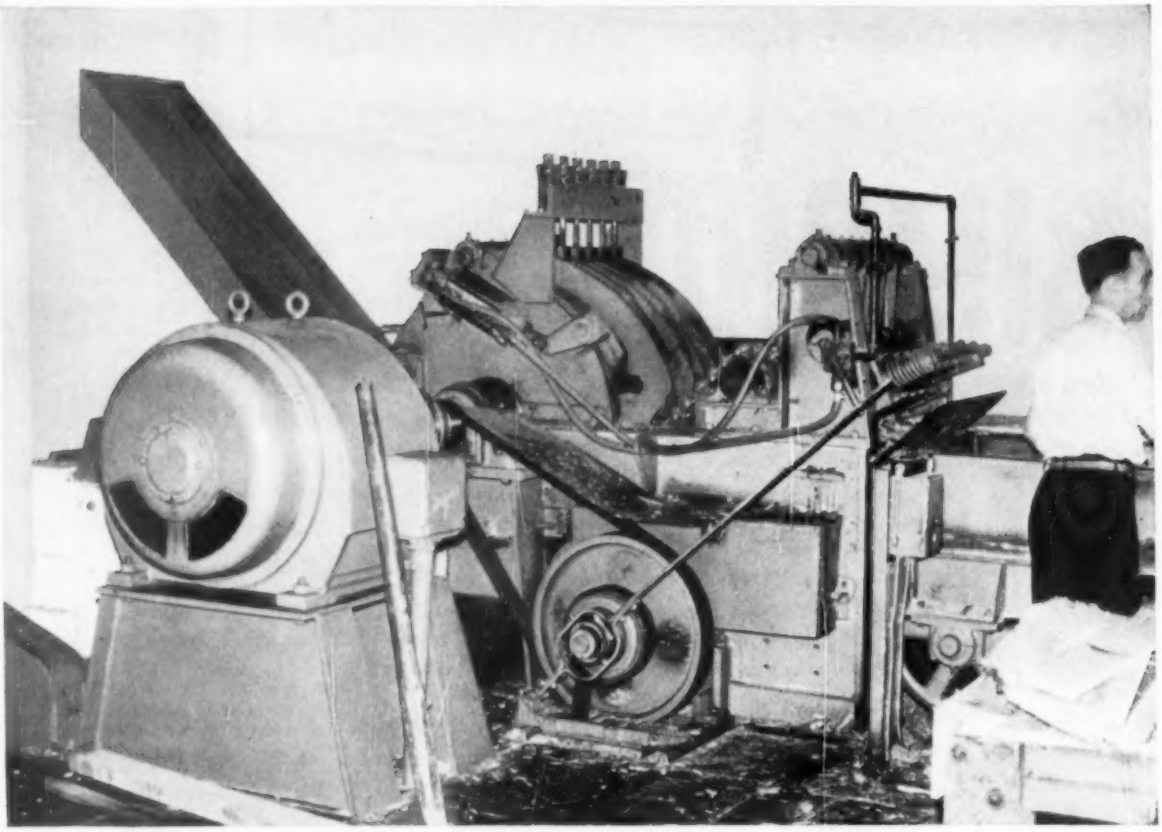
Designed for hand feed, sizes range from 8″ to 18″ inclusive. You can't buy smoother-cutting, longer-living quality for your carbide-tipped saw money. Put the size you want to work and see why!

For Fast Service from Complete Stocks Call your SIMONDS Industrial Supply DISTRIBUTOR

SIMONDS SAW AND STEEL CO. FITCHBURG, MASS.

Factory Branches in Boston, Chicago, Shreveport, La., San Francisco and Portland, Oregon
Canadian Factory in Montreal, Que., Simonds Divisions: Simonds Steel Mill, Lockport, N. Y., Heller Tool Co., Newcomerstown, Ohio
Simonds Abrasive Co., Phila., Pa., and Arvida, Que., Canada

Here's the Complete Line of Simonds Carbide-Tipped Saws



ARE YOU IN THE CHIPS?

Installations of Filer & Stowell Chippers, such as the one shown above at Consolidated Paper Corporation, Pembroke, Ontario, are supplementing income at many large and small sawmills.

Filer & Stowell installations are providing high quality wood chips from refuse which have equalled or bettered the classifications obtained by chipping pulpwood.

OPERATORS HAVE PRAISED THE FOLLOWING FEATURES:

* Large opening designed for refuse.
* Controlled horizontal feeding.
* Automatic clearing cylinder.
* Individual pressure fingers which hold material until chipped.
* Simple installation.

MANY INSTALLATIONS HAVE BEEN MADE WHICH REQUIRE NO OPERATOR

Filer & Stowell Chippers are operating in the East, West, Midwest, South, Canada, and abroad. Write Filer & Stowell for details and information on Chipper installations nearest you.

FILER & STOWELL COMPANY

Since 1856
MILWAUKEE 7, WISCONSIN
World's largest builders of heavy-duty sawmill machinery

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JANUARY, 1959

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THE Lumberman

LUMBER PLYWOOD BOARD WOOD MANUFACTURING

FLEXIBLE GROUND LEVEL MILL
This hardwood, double-band sawmill of Southern Pine Lumber Co., Diboll, Tex., marks a new trend toward simplicity and permanence in southern operations. Complete utilization program and methods make this article of interest to operators **Page 28**

ELEVATED MERRY-GO-ROUND FOR RESAW
Any operation with limited space problems will be interested in this article on Mt. Whitney Lumber Co., Johnsondale, Calif., who used an elevated system, backtracking lumber overhead **Page 33**

WHY G-P IS GOING TO PACKAGING
Taking the lead in packaging lumber, Georgia-Pacific presents a strong case for adequately packaging and labeling wood products to provide a "showroom" for merchandising wood **Page 34**

PACKAGE LOADING SYSTEM
A well-planned unit lumber loading system developed by Urania Lumber Co., Urania, La., with one man handling truck loading with a lift truck. Lumber is strapped and end branded. **Page 36**

CONSTANT AIR FLOW KILN
A kiln within the reach of smaller operators can be delivered completely in one truck load **Page 37**

AUTOMATED GREEN CHAIN
A fully-automatic green sorting chain developed by Ivory Pine Co., Dinuba, Calif., making final steps a one-man operation and simplifying the graders job **Page 38**

A PROMISE FOR THE FUTURE
The Oregon Forest Research Center laboratory at Corvallis, Ore., and how and what they are doing to develop new wood uses **Page 40**

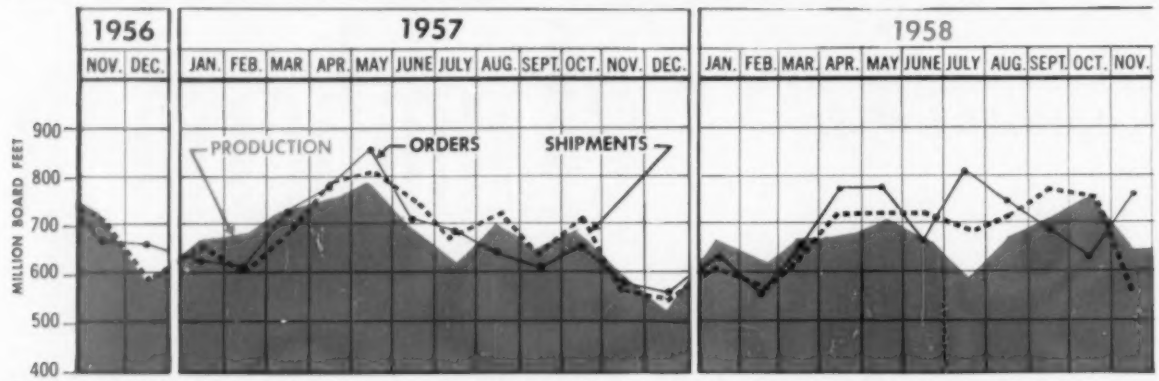
AUTOMATIC PREFINISHING AT U. S. PLYWOOD
The new prefinish plant at Orangeburg, S. C., for production line handling of prefinished plywood, showing manufacturing process **Page 46**

USING MIXED GROUND AND CHIPPED WOOD
Insulation board plant of Flintkote Co., Meridian, Miss., and how they are producing softboard with 1500 cords of mixed woods per week **Page 50**

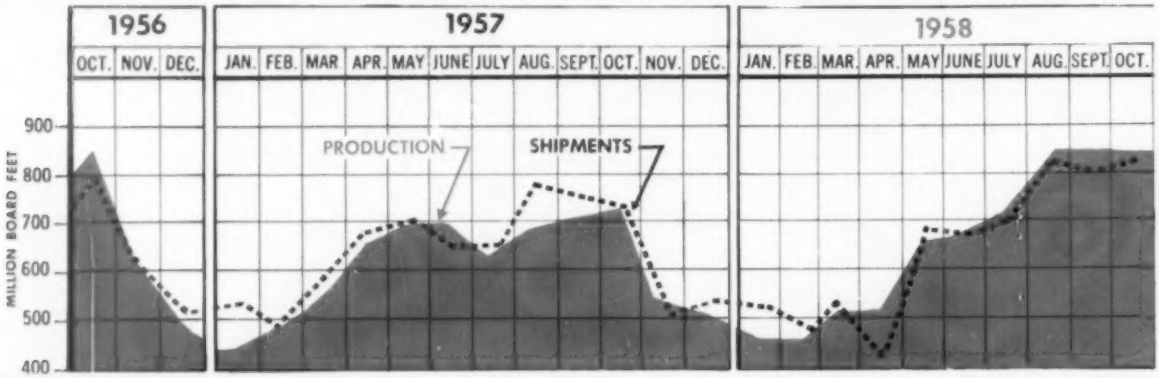
DEPARTMENTS

Industry Trends	6	Industry Meetings	57
Significant Industry News	10	Machinery & Equipment	59
Lumber Prices	54	Buyers' Guide	62
Lumber Stocks	56	Advertisers' Index	72

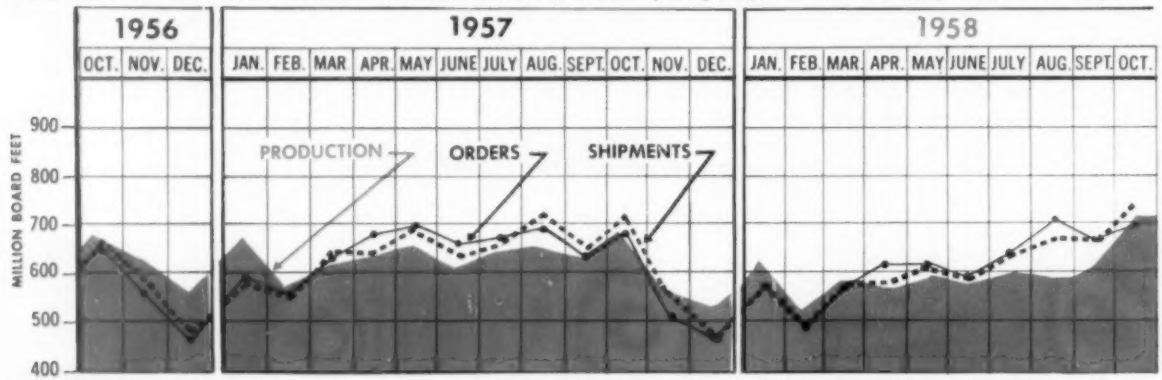
INDUSTRY TRENDS (See more TRENDS on page 12)



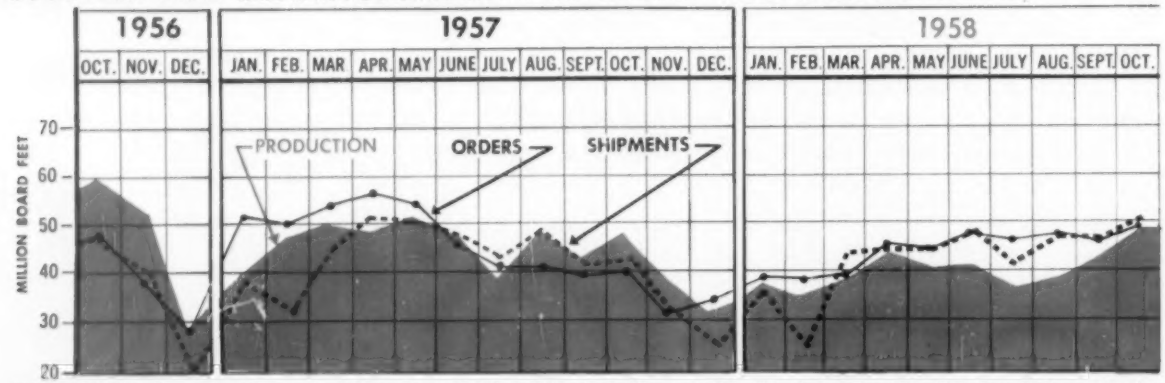
DOUGLAS FIR Lumber production for 11 months totals 7.41 billion feet. Orders total 7.51 billion feet, shipments 7.48 billion feet. Unfilled orders at the end of 11 months total 515 million feet. Inventory at the end of 11 months is 748 million feet.



WESTERN PINE Lumber production for 10 months totals 6.82 billion feet, shipments 6.87 billion feet. Gross stocks at the end of October total 1.98 billion feet. Production is down 1.3% from a year ago, shipments down 1.7% and gross stocks down 2.5%.



SOUTHERN PINE Lumber production for 10 months totals 6.01 billion feet, orders 6.09 billion feet, shipments 6.03 billion feet. Gross stocks at the end of October total 1.77 billion feet. Unfilled orders are estimated at 207 million feet.



REDWOOD Lumber production for 10 months totals 403.6 million feet, shipments 425 million feet, orders 437 million feet. Orders on hand at the end of October total 60.5 million feet. Stocks on hand totaled 357 million feet.

STANDARD ENGINEER'S FIELD REPORT

PRODUCT **CHEVRON PRESSURE PRIMER SYSTEM**

FIRM **Bend-Portland Truck Service Portland, Oregon**

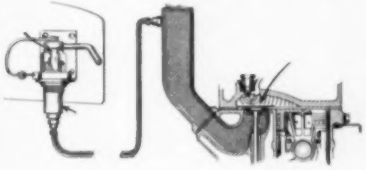
Chevron Starting System cuts starter repairs 75%

Chevron Pressure Primer Systems on Bend-Portland Truck Service's 22 diesel tractors last winter cut starter repairs 75%... reduced battery replacements 25%. "We sometimes towed trucks as long as an hour to get them started in cold weather," says fleet superintendent Ed Gutschmidt, "but we haven't towed one since we installed Chevron Pressure Primer Systems. And our generators and voltage regulators last longer, need fewer repairs and adjustments. Altogether, Chevron Pressure Primer Systems save us many hours a year, and hours are dollars."

Driver Gordon Campbell (above) demonstrates how easy it is to start his Kenworth with a Chevron Pressure Primer Cartridge and the discharger mounted on dashboard. Firm previously tried spray-packs, fluid and ether . . . often needed two men to get truck started. Now one man and a cartridge or two does the job even when its 30° below zero.

Firm's Trucks, all powered with Cummins diesels, range from new to 10 years old. Controlled charge of Chevron Pressure Primer System starts them all safely without knock or ping.

Why Chevron Pressure Primer System assures fast starts



- Volatile Chevron Priming Fuel atomizes in induction system at all temperatures even down to -65°F. No hand-pumping required.
- Pressure or weakest spark from engine fires mixture.
- Simple rugged air-tight discharger prevents Priming Fuel leakage.
- Small, fireproof, pressurized, steel cartridges protect priming fuel from water and dirt.

For More Information contact your Standard Engineer or Representative, or write 225 Bush St., San Francisco 20, California.

CHEVRON

TRADEMARK "CHEVRON" AND CHEVRON DESIGN REG. U.S. PAT. OFF.

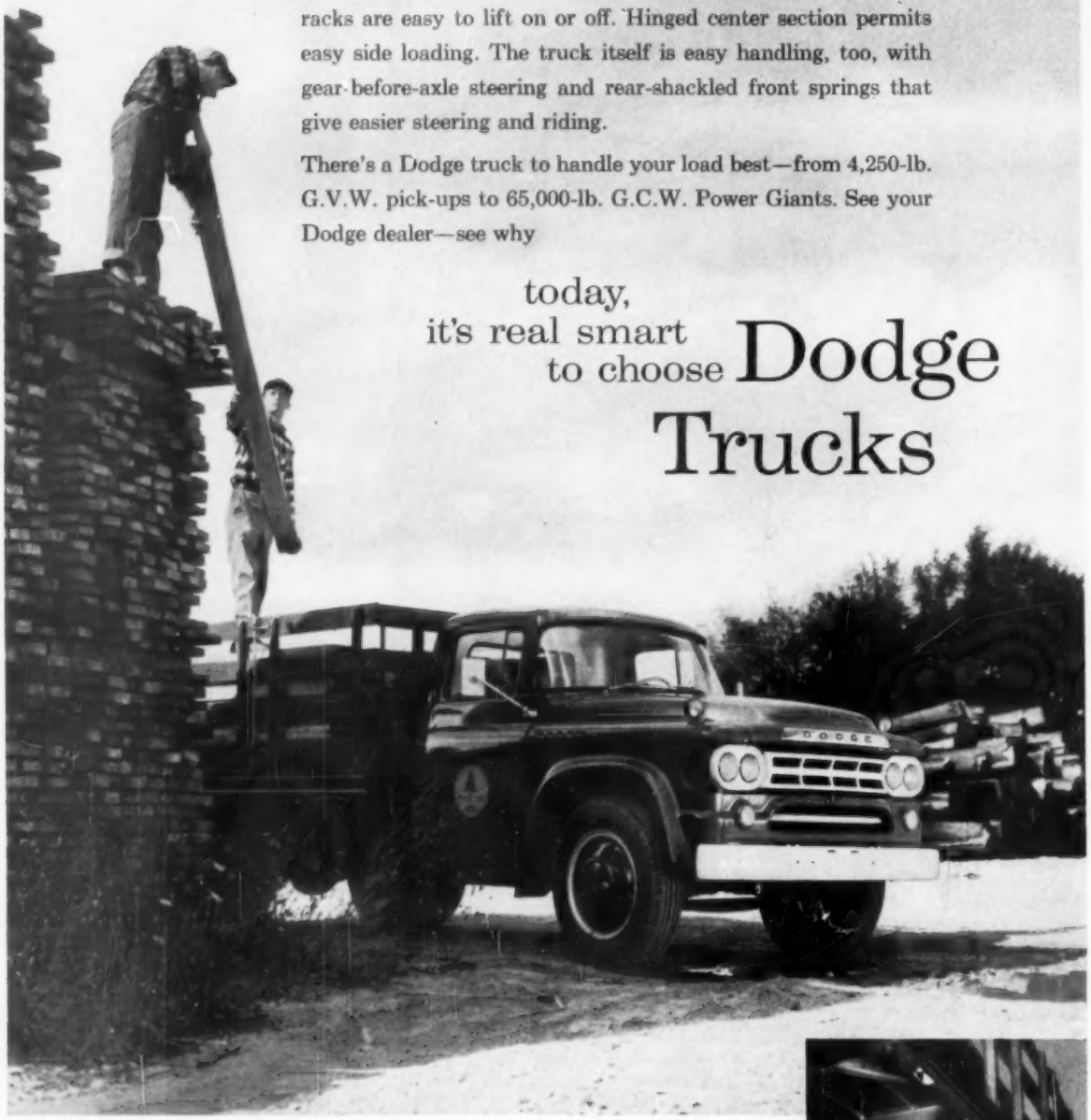
STANDARD OIL COMPANY OF CALIFORNIA

Top load-handler!

This Dodge stake has the brawn to handle your loads easily—and is built to make it easier for *you* to handle those loads. Special rear springs and wheelhousings put the stake bed close to the ground to save excessive lifting when loading or unloading. Lightweight racks are easy to lift on or off. Hinged center section permits easy side loading. The truck itself is easy handling, too, with gear-before-axle steering and rear-shackled front springs that give easier steering and riding.

There's a Dodge truck to handle your load best—from 4,250-lb. G.V.W. pick-ups to 65,000-lb. G.C.W. Power Giants. See your Dodge dealer—see why

today,
it's real smart
to choose **Dodge Trucks**



Steel sills—a Dodge *exclusive* in the low-priced three—run full length and width under body for firm, long-lasting load support. Unlike wood, they can't rot or warp. They're typical of the extra quality you get with a Dodge stake, whether you choose the 9′, 12′, or 14′ body!

"It's faster, more maneuverable

. . . and does less damage to roads and yards than the track-type loader previously used," according to Mill Foreman Phil Rankin of the C. N. Brown Co., Lovell, Maine. "Our (LO) "PAYLOGGER" is a great labor saver and, as a rubber tire machine, it has cut maintenance to an absolute minimum. It gives a real feeling of safety to the operator because of overall machine balance and hydro-shock absorbers."

The "PAYLOGGER" line gives you the best performance on wheels. It combines all the high production operating features of the "PAYLOADER", the foremost 4-wheel drive tractor-shovel available, with patented DROTT hydraulic grapples engineered into these highly mobile units. Lifting capacities range from 9,000 to 17,500-lbs., and carry capacities up to 13,000-lbs. DROTT grapples are available to suit handling logs, lumber, pulpwood or slash in woods, yards or mill.

Built throughout for rugged service, "PAYLOGGER" units have exceptional lifting capacities because of sturdy boom arms and a powerful hydraulic system; greater carrying capacity because of a longer wheelbase and greater stability because loads are carried low and close. Power-transfer differentials, power-shift transmission, torque converter drive, heavy-duty planetary axles, power-steer and 4-wheel power brakes are all features that permit a "PAYLOGGER" to carry heavy loads fast and safely . . . all by a one-man crew in the driver's seat.

Contact any Hough Distributor to get more complete details of the "PAYLOGGER" line of rubber-tired handling equipment and learn what this high-production combination can do in your operations.

DROTT GRAPPLES FOR EVERY JOB —
Choice of hydraulic grapples to handle all types of work — big logs, small logs, pulpwood, slash and a combination log and lumber grapple for yard or mill.

HOUGH®

THE FRANK G. HOUGH CO.
LIBERTYVILLE, ILLINOIS
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THE FRANK G. HOUGH CO.
884 Sunnyside Ave., Libertyville, Ill.

Send more information on "PAYLOGGER" tractors with DROTT patented grapples to handle: ☐ logs (.....lb. loads), ☐ lumber, ☐ pulpwood, other .....

Name.....

Title.....

Company.....

Street.....

City.....State.....

1-D-1

significant industry news

General Outlook . . .

CONTINUED UPTURN IN HOUSING . . . A survey by the Retail Lumber Dealers Association indicates that rate of improvement of U. S. housing during the next five years will break all records, J. C. O'Malley, president of the NRLDA reports. "The business of building and modernizing homes already is a $22 million industry and faces a steady future growth, according to a nationwide survey just completed among our members," O'Malley says. "Unless mortgage funds again become scarce, 1.25 million new homes should be started in 1959 and the home improvement business, sparked by widespread kitchen modernization, will rise above the $8 billion level reached in 1958".

IWA APPROVES WESTERN COUNCIL . . . Approval in principle has been reached by delegates of the International Woodworkers of America for merger of its eight western district councils into a western regional council. If approved by membership, the merger would include local unions of the IWA in Oregon, Washington, Idaho, Montana, California, Wyoming and Colorado. Five other groups are in the process of organization, three in the United States and two in Canada.

NEW MEXICO OPERATION PURCHASED . . . Whiting Bros. of St. John, Ariz., has purchased the New Mexico holdings of Moraine Box Co., Dayton, Ohio. This includes a sawmill cutting 40,000 feet a shift, a remanufacturing plant with a 60,000-foot a shift capacity, timber and logging operations. Frank Weskamp, manager of Moraine Box Co.'s New Mexico division, will continue to operate the remanufacturing plant at Magdalena, N. Mex.

ST. REGIS EYES EXPANSION . . . St. Regis Paper Co. has timber resources which will permit the company to increase its annual pulp and paper production capacity from 300,000 to 500,000 tons yearly. In a recent public address, president Wm. R. Adams said St. Regis will build new mills within the next seven or eight years costing $150 million. Important phases of St. Regis' expansion program will be the recently acquired large-volume timber producers, St. Paul & Tacoma Lumber Co. and J. Neils Lumber Co., with operations in eastern and western Washington and western Montana.

B. C. SAWMILL SOLD . . . The Hicks Brothers lumber operation at Slocan, B. C., has been purchased by George Milburn, former operator of Coast Spruce Mills, Ltd. on Queen Charlotte Island. Current plans call for expanding the operation, which includes a sawmill and planer.

SOUTH AFRICA EYES IMPORT DUTIES . . . Import duties on lumber entering South Africa are being considered, Paul Sauer, ministry of forestry, reports. Sauer says the timber trade is cooperating with lumber producers to have import quotas reduced by 30% in value, but buyers' resistance has brought about a price differential on arbitrary lines between the local and import products.

IDAHO MILL SOLD . . . The Firco Lumber Co. in Coeur d'Alene, Ida., has been purchased by R. J. DeArmond, R. L. Armond and Bill Joyner and renamed DeArmond-Joyner Lumber Co. It will continue in operation with expansion planned. Joyner, formerly with Triangle Lumber at Grangeville, will manage the plant.

SALVAGE SALES FOR SMALL OPERATORS . . . The U. S. Forest Service is taking steps to set up sales of salvage timber for small operators. Studies are now underway in Oregon and Washington on the amount of such timber available and requests have been made of the Bureau of Budget in Washington, D. C., to finance such activity. Salvage timber is usually sold only when intermingled with green timber. Salvage sales would not be included in the allowable cuts of forests where they are located.

LOGGING ACTIVITIES CENTRALIZED . . . MacMillan & Bloedel, Ltd., Vancouver, B. C., is establishing a centralized headquarters near Nanaimo for its 12 logging divisions. J. O. Hemmingsen, general manager of logging, will be in charge. Eastern and western logging headquarters will be closed and R. H. Deines, manager in the west becomes manager of logging production, and H. R. Chisholm, eastern manager, becomes manager of logging, engineering and development.

At the Plant Front . . .

CHILE OPERATION PLANNED . . . White Swan Lumber Co., White Swan, Wash., has purchased 60,000 acres of forest land in Chile, South America, where it plans to establish a portable sawmill cutting about 10,000 feet a day. The timber is cedar. The Chile operation will be under the direction of two executives from White Swan Lumber: Robert M. Turner, logging superintendent, and James E. Campbell, shipping superintendent and sales manager. Both are moving their families to Chile.

NEW LOUISIANA MILL . . . Johnson Hardwood Lumber Co., Flageumine, La., will be in production in January, producing 28,000 feet a day operating on hardwoods and cypress. A. A. Johnson is owner of the band operation.

NEW SAWMILL IN WEST VIRGINIA . . . Union Carbide Chemicals Co. has announced plans for construction of a sawmill in West Virginia. Production is expected in late spring at a plant cutting 16,000 feet of hardwoods a shift.

SIMPSON UPS OUTPUT . . . A 30% increase in remanufacturing capacity at its plants in Arcata and Korbel, Calif., is underway by Simpson Redwood Co. New dry storage buildings have been added at both plants. An additional planer is being added at Arcata and modernization is underway at Korbel.

PLANT RESUMES OPERATION . . . Lakeview Lumber Products has started production at its new moulding plant in Lakeview, Ore. The firm formerly operated at Prineville, Ore. Much of the equipment from the Prineville plant was moved to the new Lakeview operation.

OPERATION MOVING TO ALASKA . . . South Fork Lumber Co.'s sawmill at Sweet Home, Ore., closed since October, is being moved to Wrangell, Alaska, about 90 miles north of Ketchikan. George Reller, a partner in the company, will manage the mill in its new location. Blaine Cobat, the other owner, will manage the Yellowstone Pine division of South Fork Lumber Co. in Bozeman, Mont. The Alaska location will have access to a 3 billion-foot stand of timber.

NEW PLANER MILL IN IDAHO . . . Prairie Lumber Co. is building a new planing plant at Grangeville, Ida., president C. H. Ketcham reports.

More INDUSTRY NEWS on page 14

INDUSTRY TRENDS *(Continued from page 6)*

CHANGES LOOM IN MERCHANT MARINE ACTS. Despite a slight upward turn in late 1958, maritime shippers eye 1959 apprehensively and anticipate efforts to revise and codify existing legislation affecting the American merchant marine. Corrections are wanted in the six basic acts governing the shipping industry, with particular reference to subsidies, both construction and operating, flag transfers, the dual rate system and the powers and duties of the Federal Marine Commission. Some firmness was noted in lumber chartering late in the year: British Columbia to United Kingdom was strong at $12.42 to $12.60 while several full cargoes were reported for Atlantic discharge. Florida to Boston range, according to Robert C. Hill, waterborne lumber writer for THE LUMBERMAN. Two vessels were taken at $90,000 and $95,000, March loading, with an exceptionally large carrier, 13,500 tons, booked for similar business, January loading, at $135,000.

PICKUP IN DEMAND. The West Coast Lumbermen's Association anticipates a pickup in demand for west coast lumber in 1959. The association sees an increase in housing starts despite the possibility of less mortgage money, and a possible gain of 6% over the 1.15 million units of 1958. Gains are also anticipated in west coast species use in school and church construction, especially in glue laminated beams and arches of Douglas fir and hemlock. Wood use is gaining in the contemporary home design where it fills an important need in exposed plank and beam ceilings and in wood paneling and modern kitchens.

REDWOOD CONTINUES BUSY. October was the busiest month for northern California redwood mills since the spring of 1957, the California Redwood Association reports. Unfilled orders at the end of October were about 20% higher than actual shipments during the month and orders on hand of 60 million feet compared to 39 million a year ago. Inventories are at a 2-year low. Generally, all activities of the redwood industry were running well ahead of a year ago, and production, as a result, at the end of October totaled less than 2% under 1957's total.

LUMBER INDUSTRY IS OPTIMISTIC. A survey by the National Lumber Manufacturers Association shows the lumber industry to be optimistic on 1959, anticipating more production and sales. Respondents in the survey see a 6.6% increase in gross sales of lumber in 1959. Other predictions for 1959 are:

- Demand for wood paneling up 4.7%.
- Net profits after taxes may increase 5%.
- Total costs of lumber plants will show a rise of 4%.
- Employment will be about the same as 1958.
- Prospects for an adequate supply of raw materials are "good" or "fair."
- Lumber manufacturers will spend about the same amount for new plant and equipment as in 1958.
- Demand for lumber in non-residential construction will be up 2.6%, farm demand the same, furniture demand up 3.9%, railroads use up 1.6%, and containers about the same as 1958.

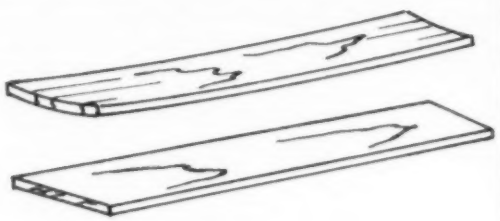
WATERBORNE LUMBER UP. October movement of waterborne lumber on the west coast of North America was considerable above the previous month, with British Columbia totals at a much higher level. B. C. increased its shipments both to the United Kingdom and the Atlantic Coast and Gulf area in the United States where U. S. shipments were down. Australia and Korea continue as busy markets for U. S. shippers.

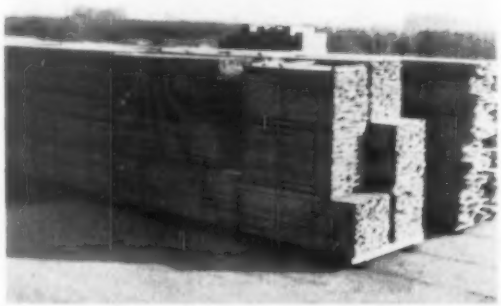
THERE'S A DIFFERENCE...

between "DRYING"

and

"SEASONING"





When lumber is improperly **dried** to a point where moisture within the cell walls themselves is evaporated, shrinkage and warping results—and charges of expensive lumber are damaged. Controlled Seasoning of the quality offered by Moore Cross-Circulation Kilns produces the profitable results you want for your mill. Why not investigate the drying system which puts Temperature, Humidity, Circulation and Ventilation—the four elements of seasoning—under complete control? Let MOORE Cross-Circulation KILNS demonstrate for you the difference between **drying** and **seasoning!**

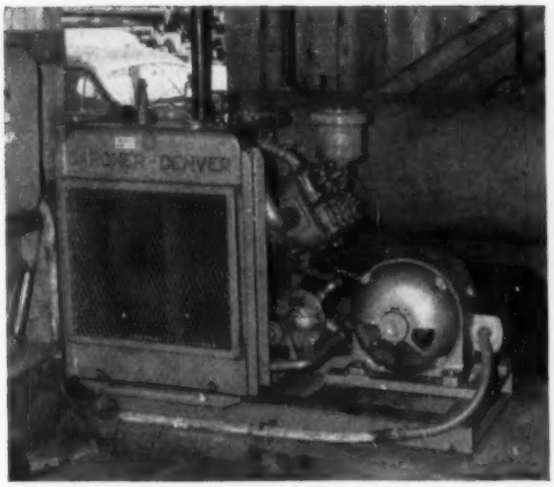
You can depend on Moore—manufacturers of QUALITY drying equipment for over ¾ of a century!

MOORE SINCE 1878

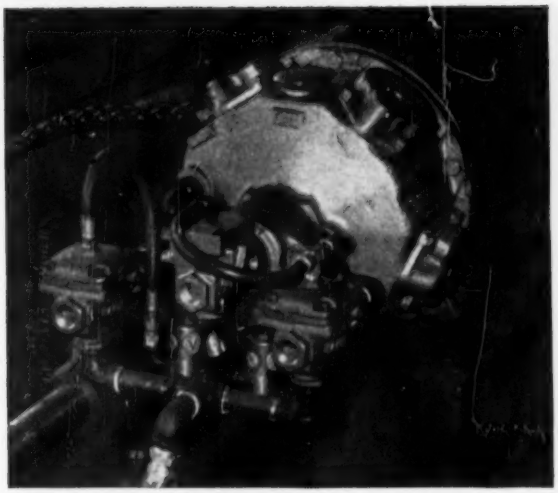
MOORE DRY KILN COMPANY

JACKSONVILLE FLORIDA · BRAMPTON ONTARIO · VANCOUVER BRITISH COLUMBIA · NORTH PORTLAND OREGON

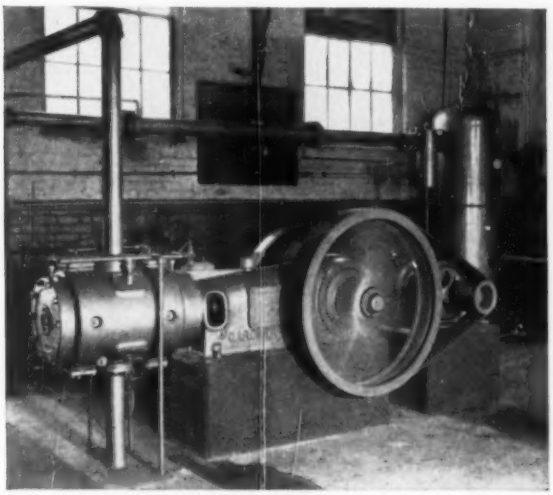
World's Largest Manufacturers of Drying and Handling Systems for Lumber and Veneer



A space-saving package ready to hook up—the Gardner-Denver WB compressor. Self-contained radiator-intercooler eliminates cooling water problems. Available in eight sizes.



Safe, dependable power for a wide variety of applications from Gardner-Denver air motors. Five-cylinder radial design. Choice of models that range from 3 to 15 horsepower.



For continuous operation at low power cost, it's Gardner-Denver RX compressors. Parts easy to inspect and adjust. Sizes: 100 to 1410 cfm. for pressures from 15 to 150 psi.

Lift 50- to 4000-pound loads easily with Gardner-Denver air hoists. They provide a swift, steady lift with gentle starts and safe, accurate stops, for operations like loading logs.

Harness air power to your mill with a Gardner-Denver team

Put air to work in your mill and you have power exactly where you need it—when you need it. Here's versatile power that's convenient, economical, easily controlled and—above all—safe.

Any one or any combination of the Gardner-Denver air team shown above helps harness air power to exactly fit your needs. For complete information, write for descriptive bulletins.

GARDNER-DENVER Since 1859 100 1959 YEARS

GARDNER-DENVER

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EQUIPMENT TODAY FOR THE CHALLENGE OF TOMORROW

In Canada: Gardner-Denver Company (Canada), Ltd., 14 Curity Avenue, Toronto 16, Ontario
Branch Offices: Seattle, Vancouver, San Francisco, Los Angeles, Salt Lake City, Denver and Wallace, Idaho

OREGON MILL REBUILDING . . . Buehner Lumber Co., Tillamook, Ore., is rebuilding and redesigning its mill to handle small logs. The mill, built in 1951-1952 to process logs salvaged from the Tillamook burn, will add a new log turner, a new planer and new kilns. A gang was recently installed.

WTC PLANS PLYWOOD MILL . . . A new plywood mill near the site of its lumber mill in Snoqualmie Falls, Wash., is planned by Weyerhaeuser Timber Co. and is expected to be in operation by mid-1959. It would be a hot press operation.

Personalities . . .

DISTRIBUTION YARD GROUP ELECTS . . . Robert J. Sullivan, Sullivan Hardwood Lumber Co., San Diego, Calif., is the new president of the National Wholesale Lumber Distributing Yard Association. Other officers include Robert W. Sconce, Omaha Hardwood Lumber Co., Omaha, Neb., first vice-president; Bill Youngblood, Youngblood Lumber Co., Minneapolis, Minn., second vice-president; Don White, White Bros., Oakland, Calif., secretary-treasurer.

ST. REGIS FORESTRY POST FILLED . . . Robert S. Hyde has been named assistant to Paul M. Dunn, director of forestry for St. Regis Paper Co. and will work out of the New York City office. He has been a member of the technical forest engineering staff of southern woodlands at Pensacola, was formerly with the Pennsylvania Department of Forests and Water and the U. S. Forest Service.

KEARNS JOINS DWYER . . . New general manager of Dwyer Lumber & Plywood Co., Portland, Ore., is Richard S. Kearns, most recently a director and vice president of Winton Lumber Co. in Martell, Calif. Kearn's background includes teaching in the forestry school at Oregon State College in Corvallis, Ore., with the Bureau of Land Management and a partnership in the firm of Mason, Bruce and Girard, consulting foresters, Portland, Ore.

HARDBOARD MEN PICK PAULEY . . . New president of the Hardboard Association is R. D. Pauley of Weyerhaeuser Timber Co. Other officers are F. M. Hughes, Forest Fiber Products Co., Forest Grove, Ore., vice-president; W. C. Walling, Georgia-Pacific Corp., Portland, Ore., secretary; P. B. Shoemaker, Masonite Corp., Chicago, Ill., treasurer; R. S. Spangler, Masonite Corp., Chicago, assistant secretary.

CHARLES S. COWAN HONORED . . . The annual top achievement award of the Western Forestry & Conservation Association has been made to Charles S. Cowan, Seattle, Wash., who for 31 years was manager of the Washington Forest Protection until he retired last April. The award was made at the association annual conference in San Francisco, Calif.

MARKETING FORCE EXPANDED . . . Weyerhaeuser Sales Co., St. Paul, Minn., has created a new market research and sales programming group. Arthur Lahey, a 25-year Weyerhaeuser veteran, will head the new section within the company's merchandising department. Seymour Kroll will be manager of market research, William N. Owen manager of sales programming and Ortie E. LaVoy will succeed Lahey as manager of products lines.

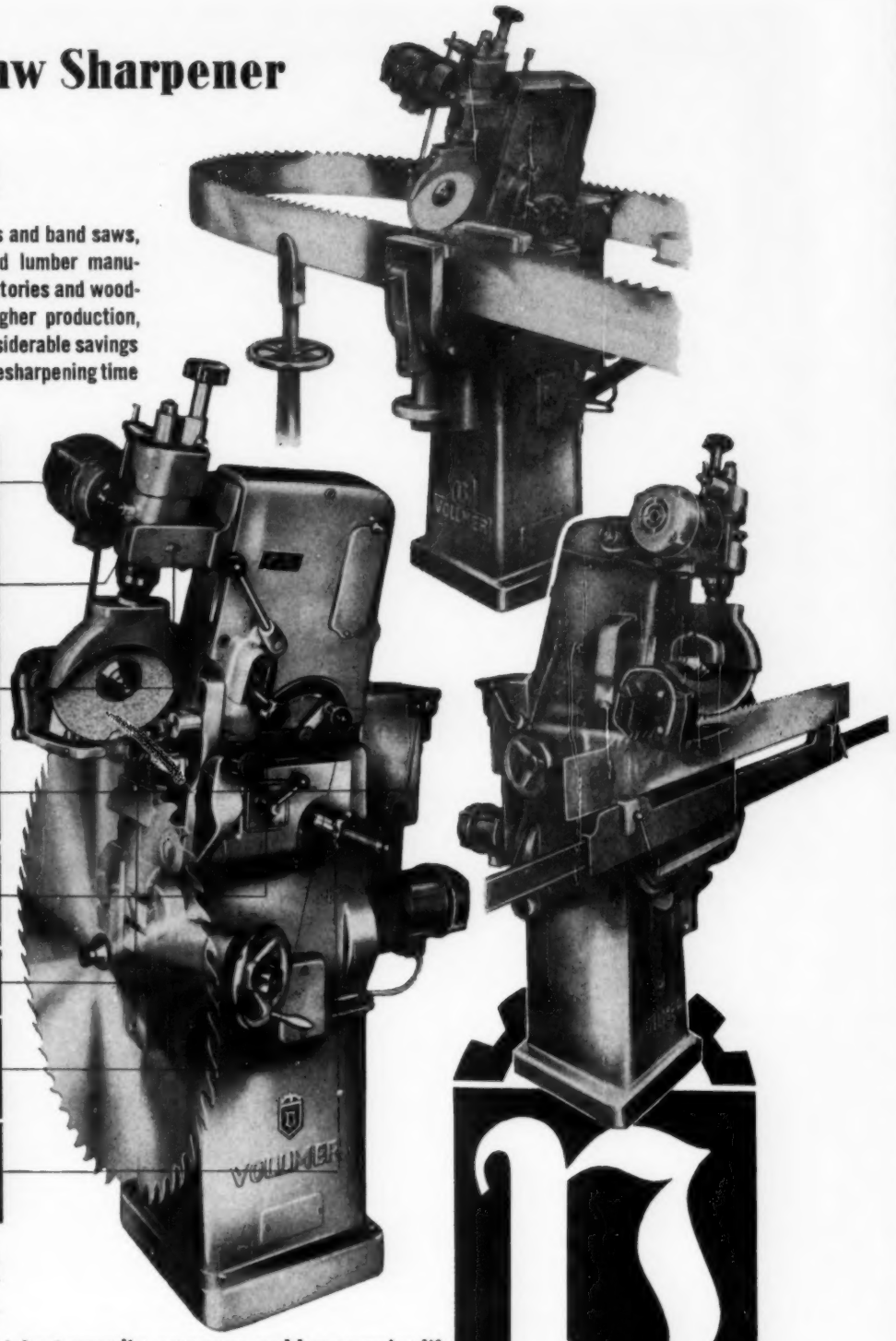
U. S. PLY SALES PROMOTION MANAGER . . . Russel H. Lutz, Jr., has been appointed sales promotion manager of U. S. Plywood Corp., succeeding Richard J. Brown who has joined Pacesetter Homes, Inc., Chicago, Ill., as a vice-president.

With our Saw Sharpener

TYPE

Cana-e

for circular saws, gang saws and band saws, thousands of saw mills and lumber manufacturers, furniture manufactories and woodworking plants achieved higher production, better quality of cut and considerable savings in wages with less hours of resharpening time and lower investments.



- Grinding wheel motor with swivel bearing
- Adjustment for tooth face- and back bevel
- Heavy-duty fully enclosed grinding head spindle moving in adjustable prismatic guides
- Three different feeding speeds of 30, 50, and 75 teeth/min.
- Tooth height (depth of gullet) from ¼"-1¾" infinitely variable
- Built-in dust exhaust system
- Four tooth shapes by simple shifting with cam lever
- Tooth pitches from ¾"-3½" infinitely variable

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Saw Sharpener

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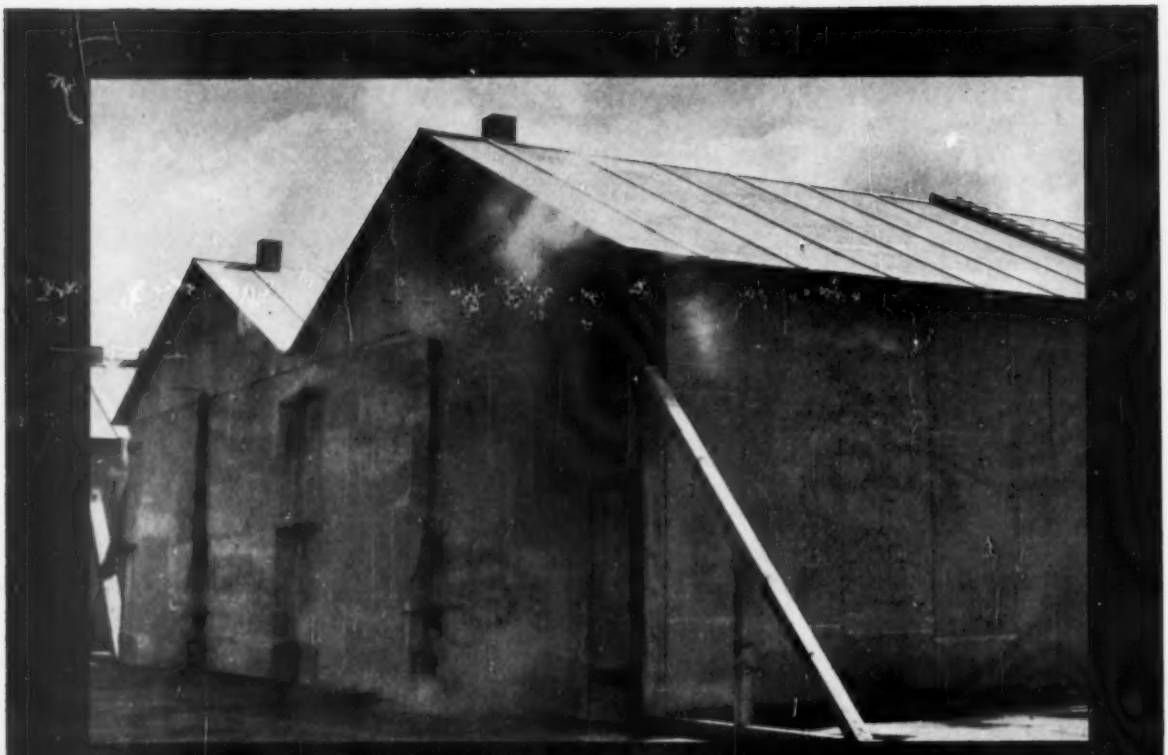
Watch future LUMBERMAN issues for more information on VOLLMER Filing Room Equipment.



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Diamond Dry Kiln
Lets you compete with any mill!

⅓ the initial cost
½ the operating cost

A NEW way to BETTER LUMBER

If your mill is cutting as little as 10,000 bf per day, it's easy to get into KD Lumber production and quickly realize the higher profits.

For as little as $12,730 capital investment, and very little time you can be producing the finest KD lumber in the industry.

New, scientific drying development, which actually "boils the lumber dry" produces a better board, far more free of the usual hard, glazed surfaces and large checks and cracks.

One of the many extremely happy users . . .

"IT'S THE BEST INVESTMENT we've made in years, and are already planning further expansion of the kilns."

(signed) Paul B. Hult
Paul B. Hult Lumber Co.
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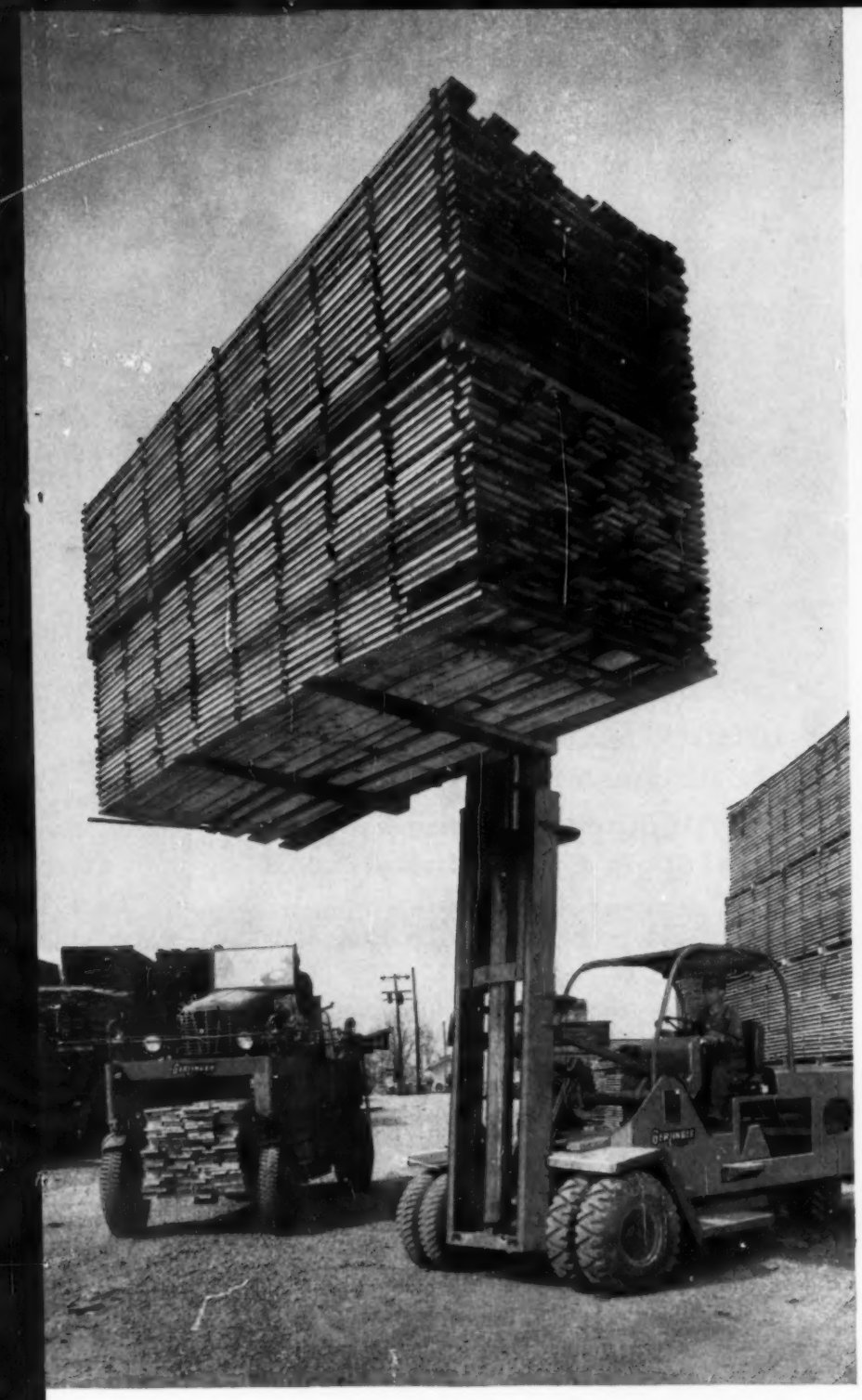
DEALERS: Write for exclusive sales territories.



Gerlinger "Floating Type" Mast Action Raises Productivity and Profits

It's easy to see how Gerlinger equipment built a reputation for modern mass-handling efficiency throughout the lumber industry.

Capacity loads up to 20 tons are actually "floated" onto the pile—or speedily stacked into any space—through Gerlinger's exclusive hydraulic mast action. It's standard equipment on a Gerlinger fork lift truck.

Gerlinger operators get positive finger-tip control in raising, lowering and positioning loads. Handling tons of board lumber is swift, safe and continuous. Especially when fork lift trucks are combined with Gerlinger material carriers for long trips and extra heavy yard work!

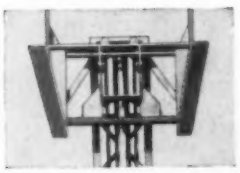
Gerlinger offers today's most modern and versatile fork lift trucks up to 40,000 pound capacities—and carriers up to 60,000 pounds. Write for latest catalog.

Leaders for 39 years in building Fork Lift Trucks and Carriers

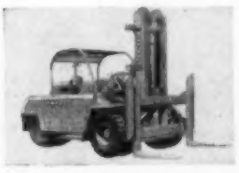
TOWMOTOR
THE ONE-MAN-GANG
GERLINGER*

*Gerlinger Carrier Co., Dallas, Oregon is a subsidiary of Towmotor Corporation, Cleveland, Ohio

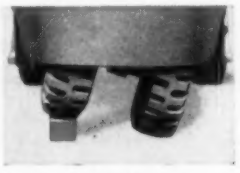
Today's industries need Gerlinger Continuous Operation



Gerlinger Mast Action is an exclusive "floating" type that achieves fast, smooth, friction-free elevation, designed to avert sway and packing wear.



This Powerful Model M-30 is typical of the heavy duty fork lift trucks in the modern Gerlinger line. Load capacities from 8000 to 40,000 pounds offer wide versatility.



Gerlinger Pivotal Steering permits unit to turn sharply and instantly adjust to uneven road contours. The axle's pivotal action helps stabilize load on any road.

☐ Send free Gerlinger Fork Lift Truck catalog

☐ Send free Certified Job Studies relating to the lumber industry

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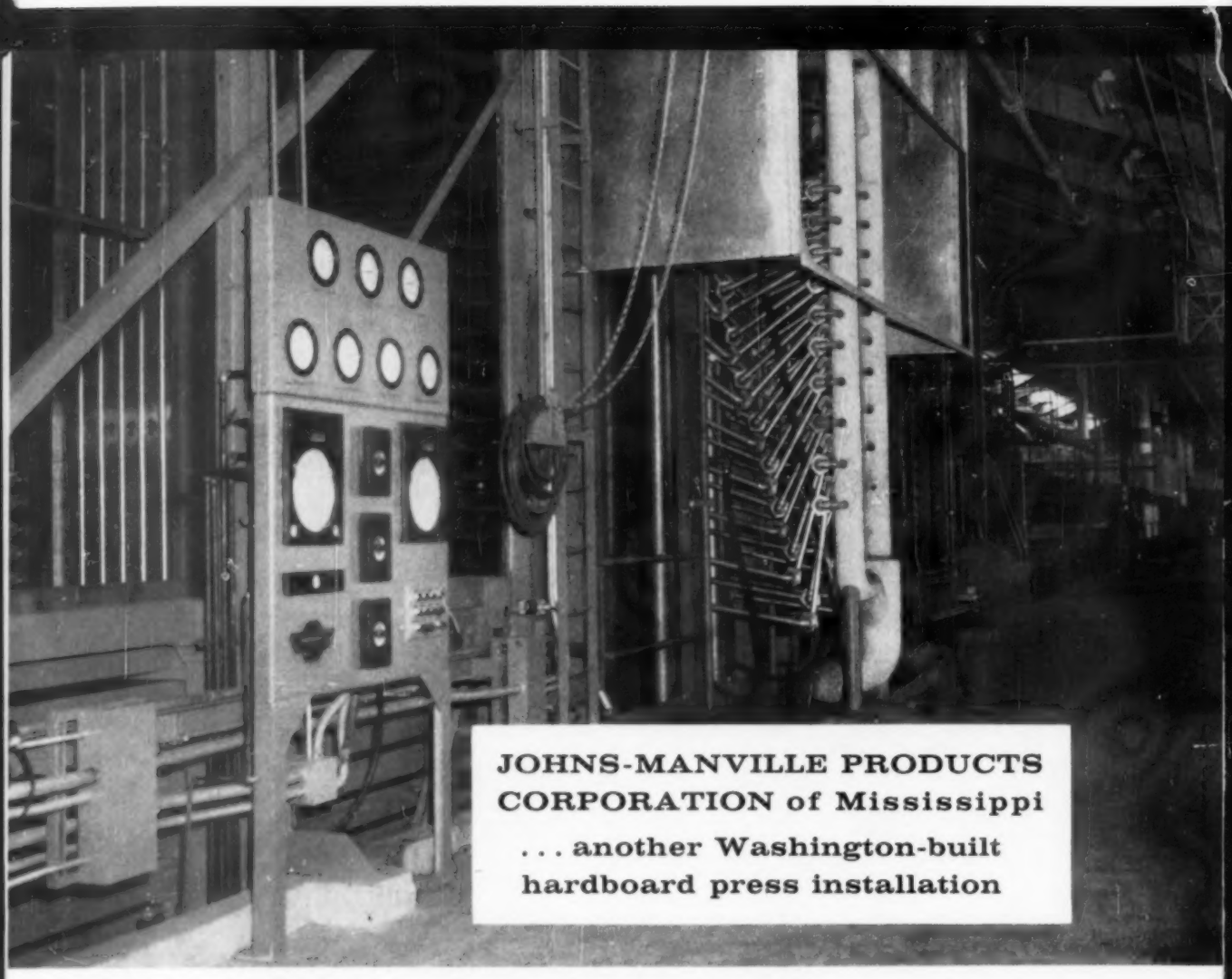
Mail to:
GERLINGER CARRIER CO., Dallas, Oregon



JOHNS-MANVILLE PRODUCTS CORPORATION of Mississippi

. . . another Washington-built hardboard press installation

Above is a view of the production line at Natchez with tempering and humidifying equipment in the background, and in the foreground the 3650-ton Washington hot press and controls for automatic operation of the curing stage. Furnished with the press, the control panel in the foreground enables presetting and continuous recording of pressure, temperature and cycle time. The 20-opening press cures twenty mats per load.

Using a new semi-chemical wet process, the new plant can produce finished hardboard panels up to 4′ x 16′ in density ranges from 56 lbs. to 69 lbs. Current production is 65-lb. board.

• • •

Eight other outstanding plants producing particle board, flakeboard and wet and dry process hardboard are featured in the new 16-page brochure "Washington presses and accessory equipment." In-plant photographs, operating data and equipment diagrams provide a valuable round-up of the world-wide production and the industry-wide acceptance of Washington-built press equipment. Your copy is available FREE by writing to Washington Iron Works.

LOCATION: Natchez, Mississippi
PLANT ENGINEERS: Johns-Manville Corporation
PRODUCT: "PanLBoard"® HARDBOARD

Johns-Manville Products Corporation of Mississippi is the newest name in quality hardboard. In the completely modern plant at Natchez, finished hardboard products of several different types roll off the highly automated production line for home and industrial construction. These products include tempered, standard, underlayment and perforated PanLBoard® hardboard in thicknesses from ⅛" to ¼".

A Washington 20-opening hot press, one of the largest in the industry, is the key to fast production of uniform, high quality hardboard. Annual capacity is 60 million square feet on a ⅛" basis.

Washington presses and accessory equipment units are designed and built to meet individual plant and process requirements of board size, thickness and density range, control of pressure, temperature and cycle time, and production rate. For complete information write to Washington Iron Works, 1500 Sixth Avenue South, Seattle 4, Washington.

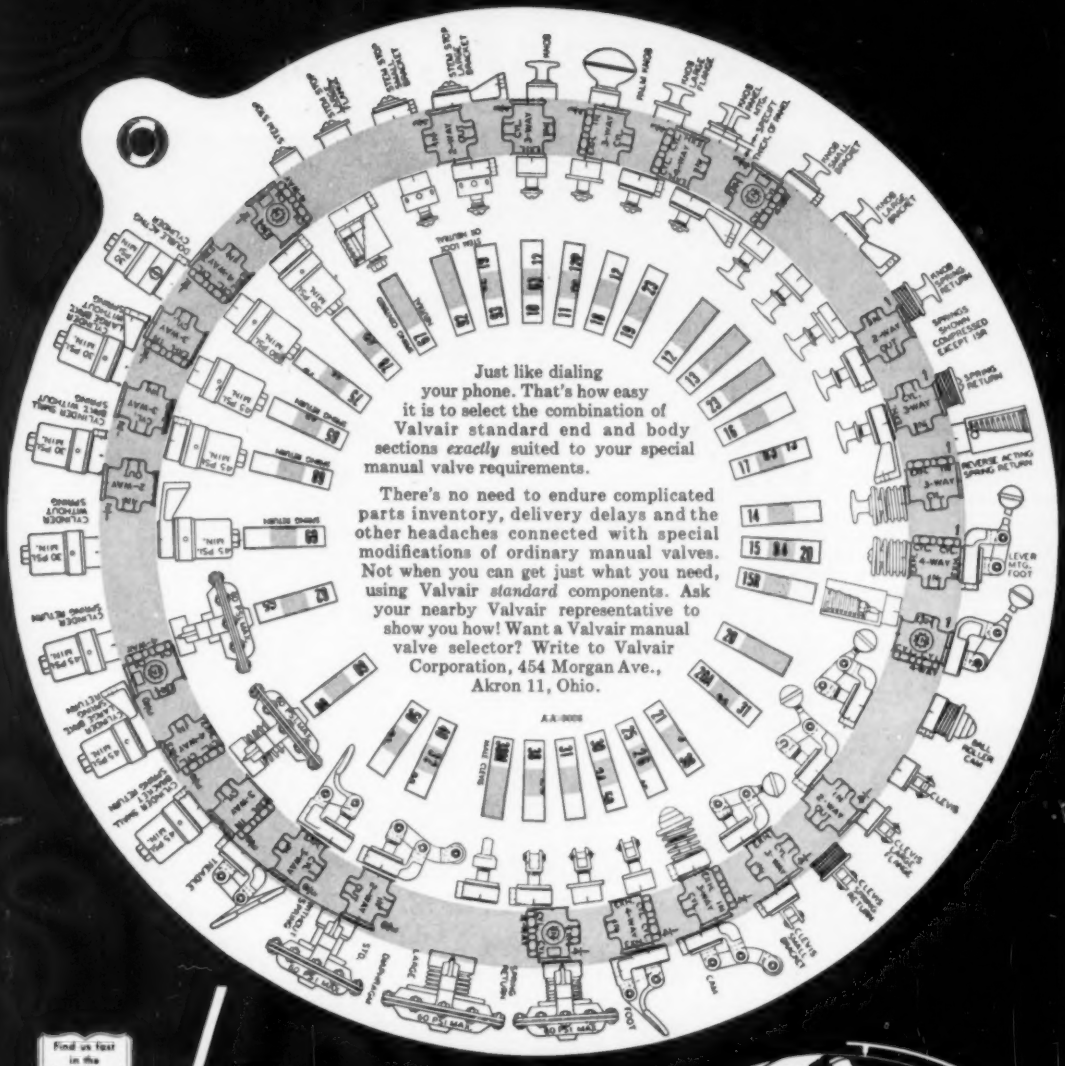
WASHINGTON presses and accessory equipment

HOT PLATE PRESSES • PULP BALING PRESSES • SPECIAL HYDRAULIC PRESSES • AUTOMATIC PRESS LOADERS AND UNLOADERS • COMPLETE DRY PROCESS HARDBOARD FORMING LINE EQUIPMENT

WASHINGTON IRON WORKS

Valvair *manual valves*

. . . unlimited combinations using standard components!



Just like dialing your phone. That's how easy it is to select the combination of Valvair standard end and body sections *exactly* suited to your special manual valve requirements.

There's no need to endure complicated parts inventory, delivery delays and the other headaches connected with special modifications of ordinary manual valves. Not when you can get just what you need, using Valvair *standard* components. Ask your nearby Valvair representative to show you how! Want a Valvair manual valve selector? Write to Valvair Corporation, 454 Morgan Ave., Akron 11, Ohio.

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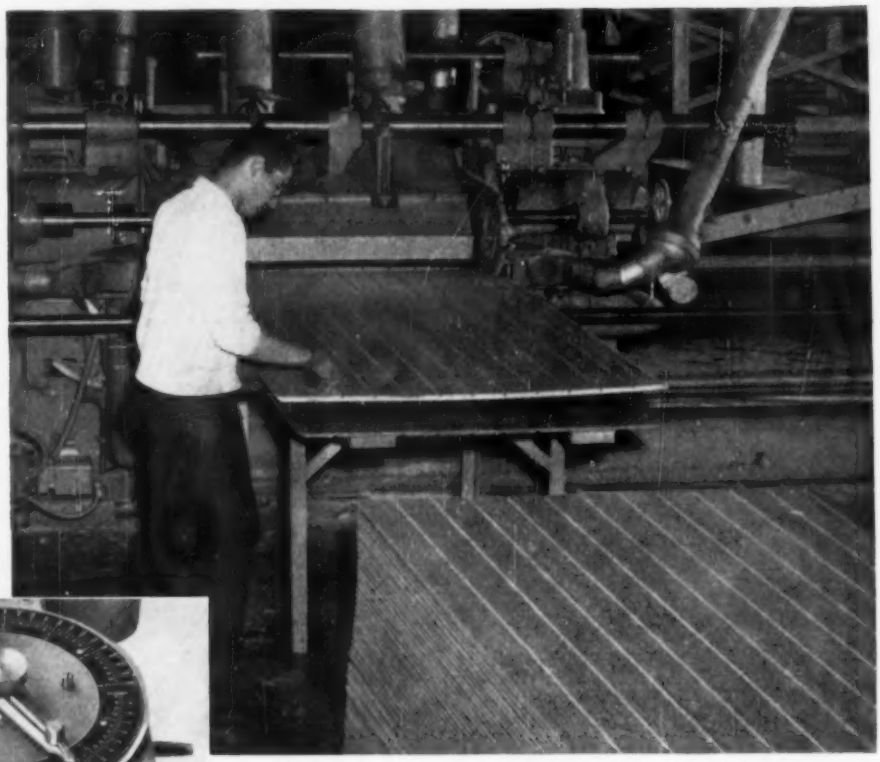
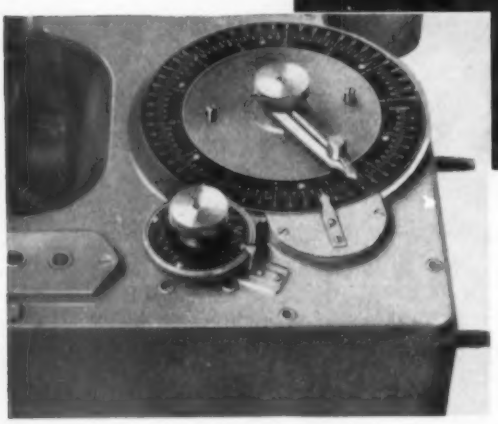
Versatile

GREENLEE No. 545 Specialty Machine Cuts Timblend and Plywood Specialties

at RODDISCRAFT, INC. ARCATA, CALIFORNIA



Column adjustments are power operated and easily made. The *precise* distance between cutters is shown on the two dials below. The large one shows settings in feet and inches . . . the smaller one in sixty-fourths.



Trimming Timblend . . . splitting plywood . . . running Texture 1-11 and other grooved patterns . . . scarfing . . . edge-shaping . . . it's all in the day's work for this Greenlee No. 545. Here, more than 300 4′ x 8′ Texture 1-11 panels are machined each hour. Greenlee's arrangement of steady-bearings and hold-downs enables mounting grooving cutters on 2″ as well as 4″ centers. Investigate the versatile Greenlee Double-End Machines.

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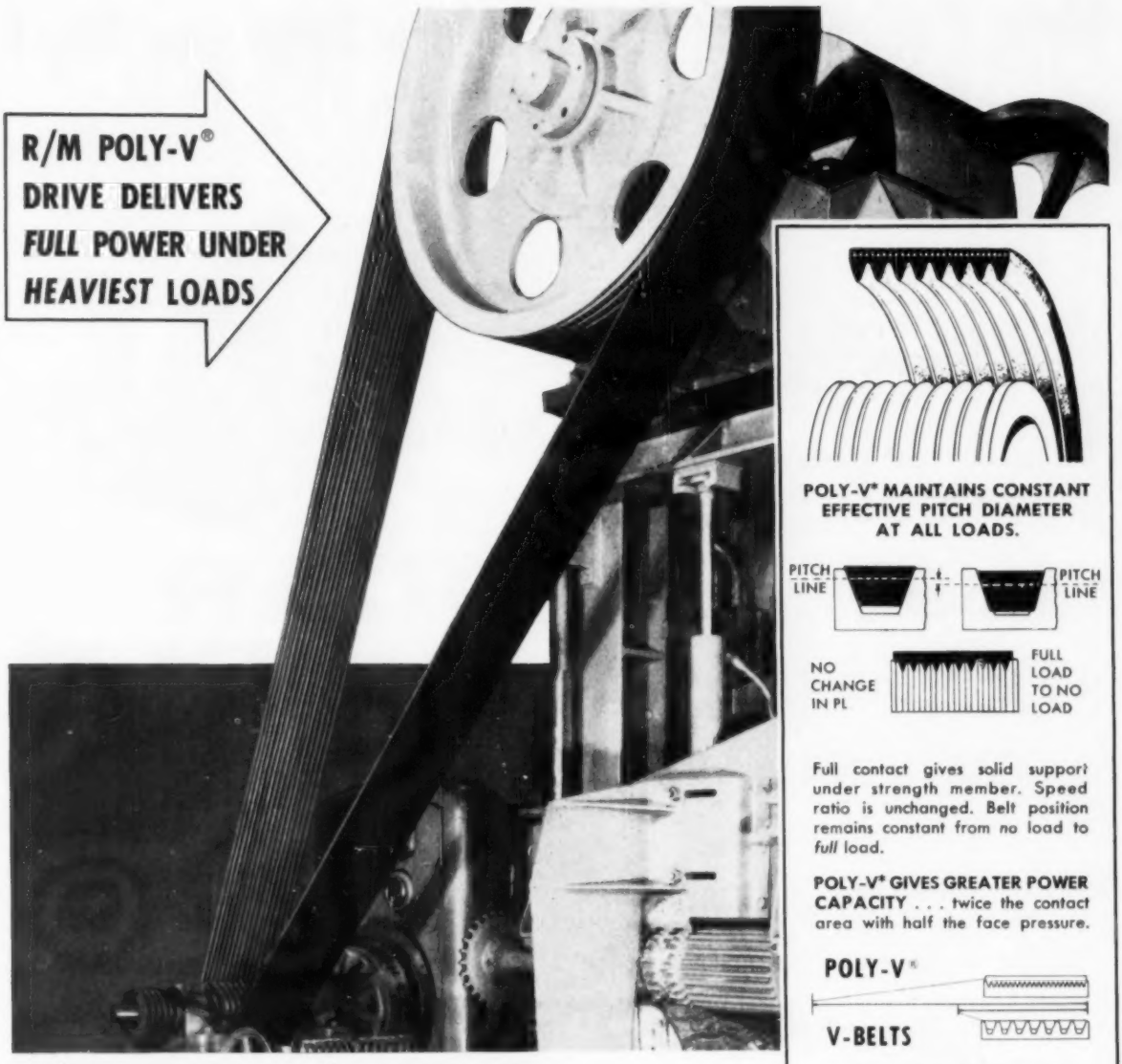
R/M POLY-V®
DRIVE DELIVERS
***FULL* POWER UNDER**
***HEAVIEST* LOADS**



POLY-V* MAINTAINS CONSTANT EFFECTIVE PITCH DIAMETER AT ALL LOADS.

Full contact gives solid support under strength member. Speed ratio is unchanged. Belt position remains constant from *no* load to *full* load.

POLY-V* GIVES GREATER POWER CAPACITY . . . twice the contact area with half the face pressure.

POLY-V ELIMINATES V-BELT MATCHING PROBLEM

R/M POLY-V® DRIVE... MORE USE PER DOLLAR

Heavy loads can slow down ordinary gang saw drives . . . even throw off belts where conventional multiple V-belt drives are used. Not so with R/M Poly-V Drive. Design features of R/M's patented heavy duty drive assure constant belt speed ratios from *no* load to *full* load . . . *uniform* power delivery *without* loss in drive speed under the most rugged operating conditions and heaviest production schedules.

No drive delivers as much power in as little space as Poly-V* Drive. Single unit V-ribbed belt design provides *twice* the tractive surface of V-belts to deliver up to 50% more power in the *same* space as a multiple-belt drive . . . or *equal* power in as little as ⅔ the space! There are no belt "matching" problems with Poly-V, no equipment downtime for individual belt replacement. And because drive life is not limited to individual belt life, you get longer, trouble-free service on the job.

Just *two* Poly-V belt cross sections meet *every* heavy duty power transmission drive requirement. Let R/M engineers assist you in determining the best installation for your application. Contact your R/M representative . . . or write for Bulletin #M141.

*Poly-V is a registered Raybestos-Manhattan trademark.

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Whatever you haul,
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Whether you own one truck or a fleet, don't be satisfied with less than the BIG YIELD from your truck investment . . . that extra earning power you get from diesel Autocar.

Let your Autocar Representative match Autocar cost-saving advantages against your present hauling operation. He can show you how to get *more payload per trip, more trips per day, with less down time for repair and overall lower operating costs.* Call your local Autocar man today!

Sales & Service Facilities Everywhere

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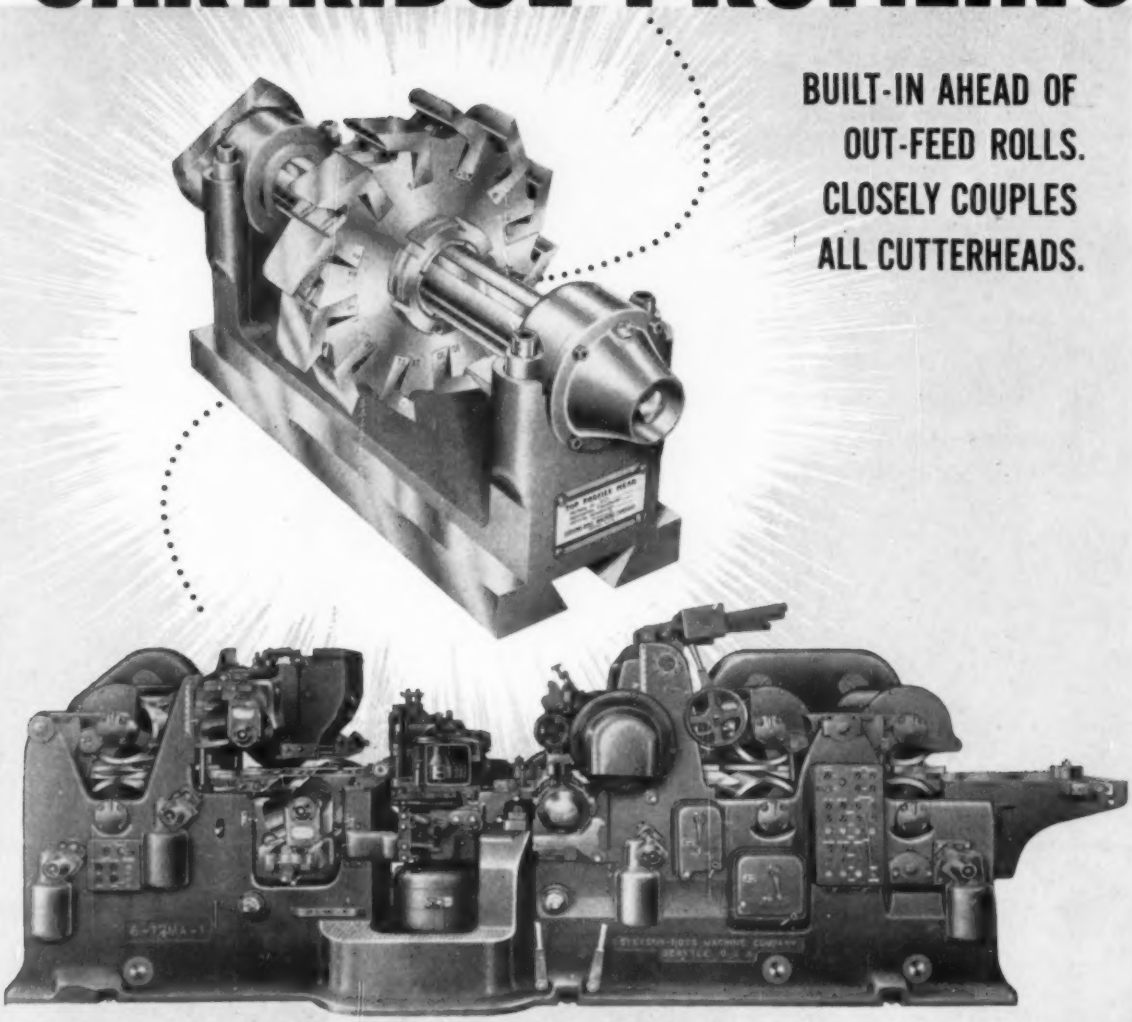

BUILT-IN AHEAD OF
OUT-FEED ROLLS.
CLOSELY COUPLES
ALL CUTTERHEADS.

An original cost reducing feature of Stetson-Ross Planer-Matchers for over 45 years

*Pre-set "cartridge" profile units built-in ahead of outfeed rolls give you highest quality millwork, and instantaneous pattern change through the use of spare "cartridge units." These are fundamentals of good machine design, developed and perfected by Stetson-Ross.

Touchup jointing of profile "Cartridges" on the machine, spring-loaded sectional pressure plates, on top profiler and numerous optional profile features have been available for many years on our machines.

For tomorrow's planing mill profits today, see Stetson-Ross!

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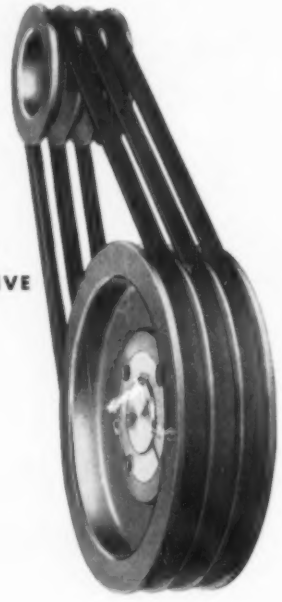
Announcing

an entirely new line of V-Belt Drives.....

DODGE Dyna V



CONVENTIONAL TAPER-LOCK DRIVE

DYNA-V TAPER-LOCK DRIVE

NEW **HIGH CAPACITY**

NEW **COMPACTNESS**

NEW **SAVINGS IN COST**

COMPARISON, ILLUSTRATED ABOVE — 3 HP, 1750 RPM, 2.41 TO 1 RATIO

	BELTS		SHEAVES			CENTER DIS-TANCE	HP	WEIGHT (LBS.)	COST	
	Number	Size	O.D. Driver	O.D. Driven	Width				Per hp	Per Drive
CONVENTIONAL TAPER-LOCK DRIVE	3	A42S	4.15"	8.95"	2½"	12.3"	4.62	24.7	$5.91	$27.38
DYNA-V TAPER-LOCK DRIVE	2	3V400	3.35"	8.00"	1⅜"	10.8"	5.0	18.0	$4.50	$22.50
% SAVING *Savings vary with different sized drives*			**19%**	**10%**	**56%**	**12%**	+	**27%**	**23.8%**	**17.8%**

Dyna-V Drives are sensationally compact. They are capable of handling up to three times as much horsepower in a given space. Dyna-V opens vast new possibilities for better, more economical machine design. And, in most instances, *Dyna-V costs less!*

Narrower grooves, to match stronger, narrower Dyna-V Belts, greatly reduce the face width and the weight of Dyna-V Sheaves. Cost is lowered. Smaller diameter sheaves and shorter center distances multiply savings.

Dyna-V Sheaves decrease shaft overhang—increase bearing life. The new dimensional stability of Dyna-V Belts solves the problem of belt matching. Every belt carries its full share of the load.

Dyna-V Drives will be available for capacities from 1 to 1500 hp. Ask your Dodge Distributor. Or write us for new Dyna-V Bulletin.

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DODGE

of Mishawaka, Ind.

CALL THE TRANSMISSIONEER—your local Dodge Distributor. Factory trained by Dodge, he can give you valuable help on new, cost-saving methods. Look in the *white* pages of your telephone directory for "Dodge Transmissioneer."

Work with your AIM*... Northern Indiana Lumber & Coal Co. does...

Acme Idea packages cut lumber yard expenses

LUMBER PACKAGING METHODS DEVELOPED BY ACME STEEL COMPANY are paying off for Northern Indiana Lumber and Coal Company, Whiting, Indiana. (Idea No. U1-16)

This lumber and building supply dealer specifies carloads of lumber packaged and braced the Acme Idea way at the mill. Packaged lumber shipments arrive in good condition, ready for fast unloading with mechanical handling equipment. This gives Northern Indiana Lumber & Coal Co. a number of ways to cut operating costs and reduce overhead. For example: full use is made of mechanical handling equipment for unloading and yard handling of lumber. Both inventory control and order filling are speeded. Manpower is used to best advantage and conserved since the time-consuming manual work of handling, stacking, checking and assembling orders has been eliminated. The yard crew handles more orders per working day, and customers are pleased by faster, more efficient service.

Acme Idea Man Andy Bassi helps many companies to better, more economical materials handling and product protection.

***Work with your Acme Idea Man** and cut costs by applying Ideas such as this to your business. Or write Acme Steel Products Division, Dept. LBU-19, Acme Steel Company, 1025 Sixth Ave. South, Seattle 4, Washington, also Portland, Oregon.

ACME STEEL **STEEL STRAPPING**

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In fact, there's no other source so complete, so timely, so authoritative. For facts. For news of the trade or industry. For fresh ideas in design, engineering, production, marketing. For the special information a man in any business needs to make decisions.

The man on the rise, like the man on top, reads his businesspaper . . . searchingly, carefully, thoroughly. Searchingly, for information he must have. Carefully, because he's reading for profit, not for pleasure. Thoroughly, because he wants to know, *what's in it for me?* And, for these reasons, he reads the advertising with the same intense concentration he devotes to the editorial pages.

To keep on rising in your field take out your own subscription to your businesspaper. Then read every issue. Searchingly. Carefully. Thoroughly.

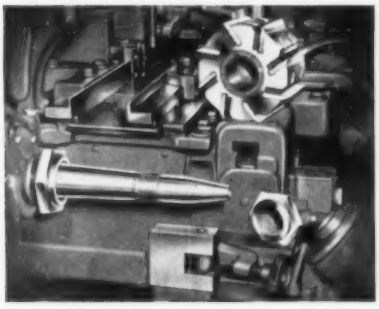
One of a series of advertisements prepared by THE ASSOCIATED BUSINESS PUBLICATIONS

THE Lumberman

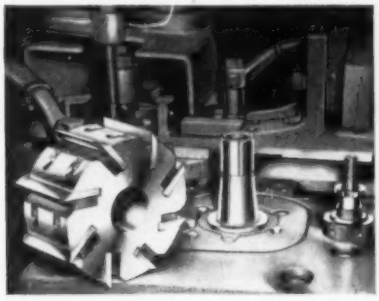
mf A MILLER FREEMAN PUBLICATION

Serving the Industry Since 1852

It's Masterful!
This 6" LAG BED ELECTRIC MOULDER

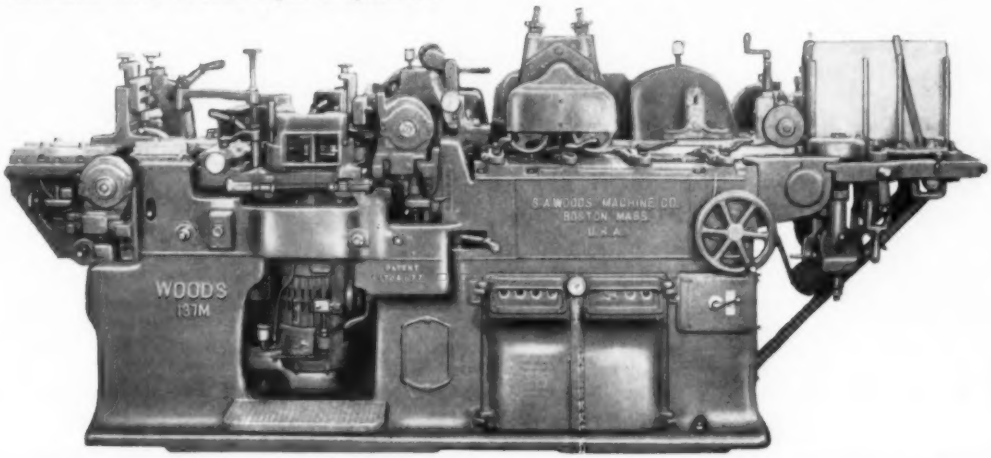


• *Bottom Tapered Spindle*



• *Side Tapered Spindle*

The new Woods 137MT Moulder Series brings to the Industry a new concept in spindle design, the Woods tapered spindle. Your production costs go down, your production rate increases, with Woods tapered spindles.



Cutterhead sleeves and bushings are eliminated, securing more rigid cutterhead fit on spindle. Removal and mounting of cutterheads becomes a matter of moments—a simple and easy operation. Let us tell you more about Woods tapered spindles and the many other exclusive time and money saving features built into the new Woods 137MT Moulder Series. Shown with hopper feeding attachment. Feed rates to 250 FPM.

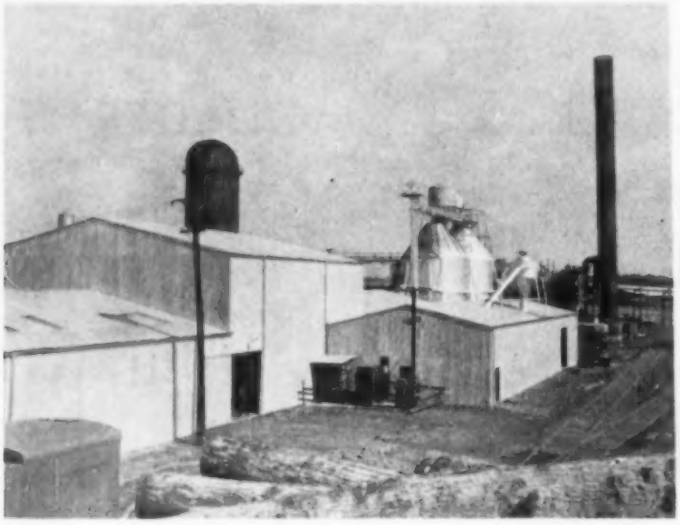
Send today for your copy of the new 137 catalogue

S. A. WOODS MACHINE CO.
27 DAMRELL STREET
BOSTON 27, MASS.

Branch Offices: ARK., Little Rock • CAL., Los Angeles, San Mateo • N. C., Greensboro • N. Y., Pelham
ORE., Portland • TENN., Memphis
Canadian: B. C., Vancouver, Akhurst Machinery Co. • ONT., Galt, Canada Machinery Co.
Export Dept.: United States Machinery Co., 90 Broad St., New York City

Flexible Ground Level Mill marks trend

of simplicity and permanence going into modernized southern operations



DESIGNED FOR FLEXIBLE OPERATION, the new mill was constructed with two thoughts foremost: "Keep it simple and make it permanent." The plant was erected by Temple Industries, Inc., of Diboll, Tex., and its completion with the boiler plant, was done for an expenditure of about $4 million. Lower right shows the old mill replaced by modernization program.

THE CHANGE THAT is taking place in the lumber industry throughout the South is graphically portrayed at Pineland, in East Texas. Here the Southern Pine Lumber Co., has replaced its large outdated sawmill with a compact and highly efficient unit.

Largely a Filer & Stowell sawmill with two headrigs, it is a ground-level plant. The mill cuts principally hardwood: 60% goes to the company's own oak flooring plant; 20% to the furniture dimension plant and 20% to open market. Hardwood chips go to the company's Templebond insulation board plant at Diboll. Residues are ground into wood flour supplying the toilet seat plant.

Production is running 150,000 board feet on a 24-hour daily schedule. Utilization is exceptionally high. Eighty-five men operate the mill round-the-clock. In all, 680 people are employed at Southern Pine's Pineland operations.

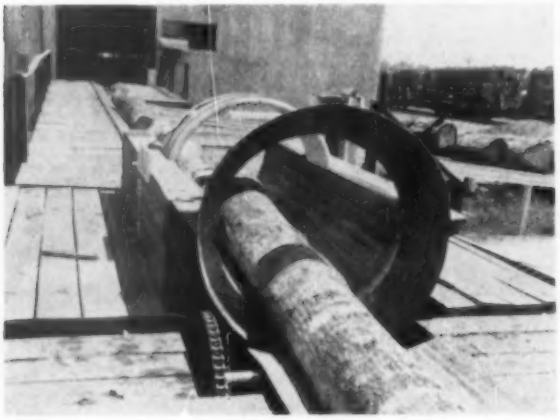
Commenting on the advantages of the ground level mill, general manager Jack Sweeny had this to say: "You can get at everything better and it is faster handling of material in and out." From an engineering standpoint, the low-level arrangement lends itself to study permanence of construction.

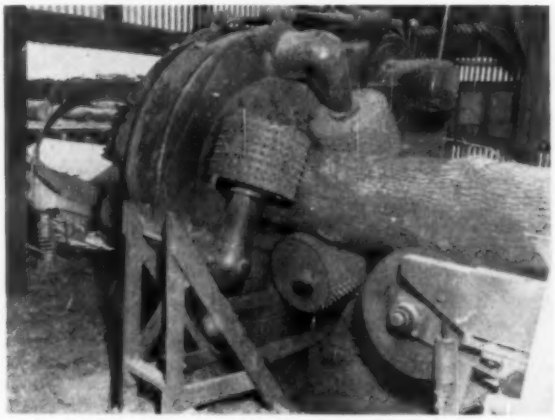
A safety feature of the plant is the eye-ease green paint used throughout the mill. Yellow paint conspicuously marks handrails and stairs.

RECEIVING AND BARKING END. The bulk of the logs are brought in by rail. Logs are unloaded by an Orton 45-ton railway crane equipped with Mack clamshell tongs. The crane places logs on either side of the storage pile or directly onto the 2-strand, live deck leading to the barker. Storage area holds 20 million feet.

Barking is done with a Soderhamn 26-inch Cambio barker. At least three advantages are gained by this step: (1) Helps sawyer evaluate log for maximum quality; (2) Improves quality of wood residues; (3) Bark provides fuel for power plant.

Barked logs and species like oak that are not barked, advance by conveyor chain through a Soderhamn 42-inch ring metal detector. Electronic signals detect metal in logs.





LOGS GO LEFT OR RIGHT to either one of the two headrigs. Both headrigs and the all-electric carriages are Filer & Stowell. The carriage on the right, or "short side" is for logs 16′ to 24′. The larger 20′ carriage has a 14″ shotgun feed. Smaller 16′ carriage has a 12″ shotgun feed. Two sizes of headrigs were installed to permit plant to also cut pine logs.

Both carriages are riderless. They have 42″ openings and power is carried by pantagraphs. They are 8′ units using silver-tooth saws with 1¾″ tooth spacing. Headsaws are run at 10,000-fpm rim speed.

Company policy is to cut hardwood 1/16″ thicker than pine would be, the latter customarily cut 1⅛″ thick. The sawyer cuts for grade from each side of the logs before he turns it down. If large enough, oak logs for instance, will be turned down at 12¾″; smaller ones at 9½″ or 6¼″. A vertical resaw on the green chain is used to obtain highest recovery possible.

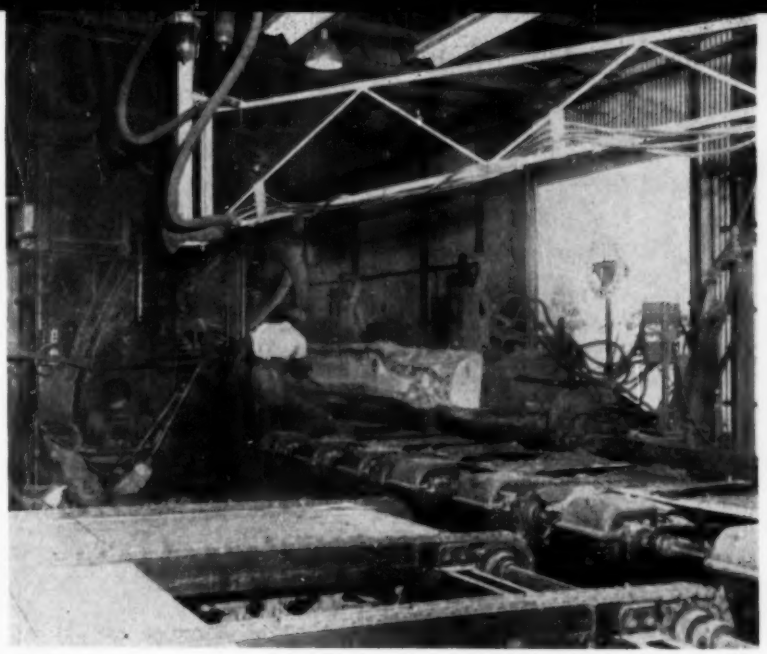
EDGING AND TRIMMING. Material from both headrigs feeds into a 10-saw Filer & Stowell double edger. The two edgermen use a shadow line guide for accuracy. Edgers are hand set. Timbers are transferred from offbear roll case to outside of the mill where an L-M chain saw bucks timbers to length. See photo below.

The double-end trimmer is a 12-saw F&S. The trimmer is automatic on the end cuts, leaving the trimmerman free to operate the other 10 saws. The saws are air operated and controlled by eye-level, finger tip levers. See photo lower right.

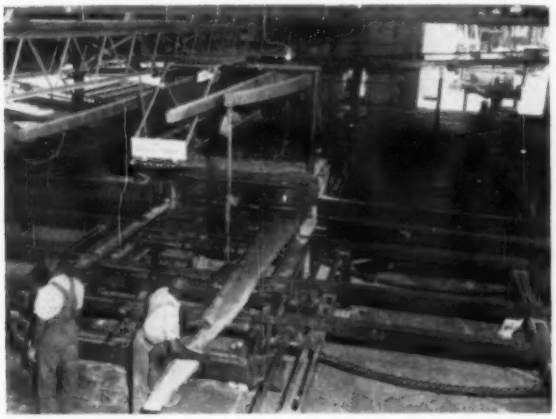
Live rolls carry trimmed lumber to a 6-strand conveyor table at the head of the 375′ long green chain. At this point, a Yates-American Y-54 vertical resaw up grades 2″ material. A Moore mechanical Swede pulls from the chain to a merry-go-round system back to the resaw. Lumber all passes through a *Diprite* immersion tank to control sap stain and mold.

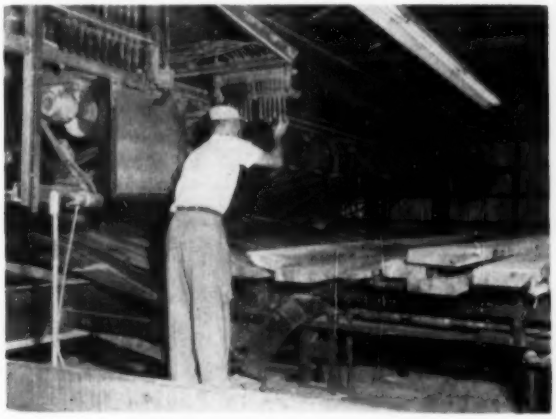
The green chain is housed in a pole-type shed. The long shed used 38 poles on each side.

[MORE ON PAGE 30]



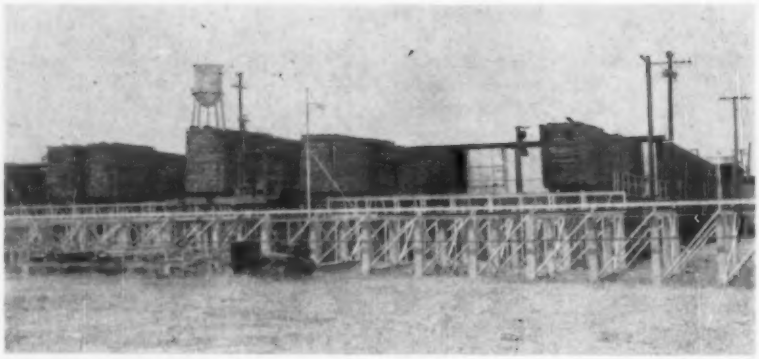
DECK HANDLING and scaling are rapid. As the logs hit the interior live deck, the scaler scales and tallys them on a Monroe adding machine, especially rigged for this use. The adding machine has two ribbons, one red and one black. The black tallys the board footage and number of logs for the "long" side. The red ribbon tallys logs for the "short" side. Log footage is Doyle scale. By means of subtotals and totals, production can be instantly checked at ony time of day. The scaler also controle both decks from a push-botton panel. Steam kickers and niggers are used.

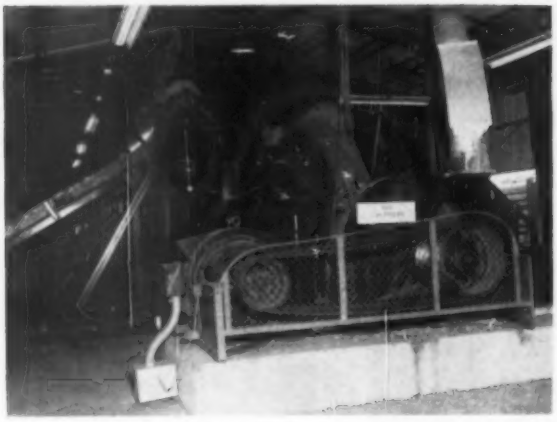




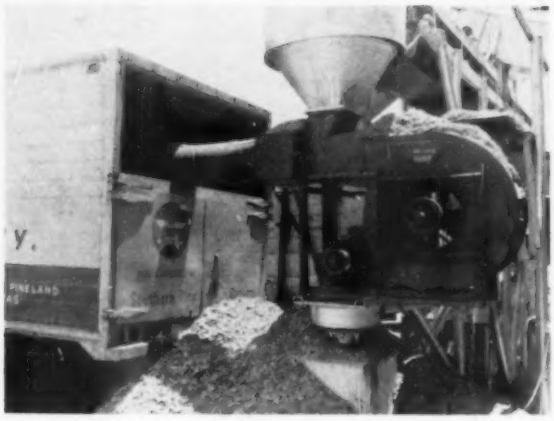
STORAGE AND DRYING. Ross carriers are used to transport lumber from the sorting pockets to the storage yard. Yard capacity is 17 million board feet. The large yard is required due to the neccessity of air drying hardwood prior to kiln drying. Three months are required for air drying for each 1" thickness.

The eight double-track Moore kilns have all been remodeled and recoated. They have a capacity of 65,000 board feet each. The kilns are electronically controlled with reversible cross circulating fans in each unit.



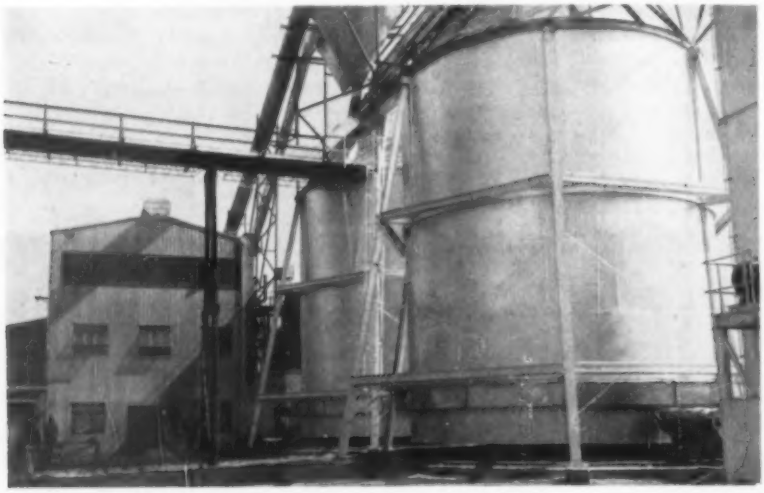


▲ **CHIP PRODUCTION** is from headrig slabs and edgings. Four 42" slasher saws cut the slabs into suitable sizes for the chippers. Edgings and trimmer cuts join the headrig slabs and are conveyed to one of two 66" Sumner chippers. Two chippers are used to prevent backup of material and avoid shutdowns of the plant. Power for the 6-knife units is through 175-hp Westinghouse motors. Hanchett grinder keeps the knives in shape.



Chips pass over a special Rotex chip screen which sifts out both pulp and fuel chips. Pine oversize chips, whenever pine is cut, go to a Williams hog for reduction to paper pulp chips. The chips are loaded directly into vans with two Phelps blowers. About 80 minutes are required to load each 20-ton trailer in photo above.

A central conveyor system, below the ground, handles refuse from all equipment not suitable for saleable chips.



FUEL STORAGE for the power plant is contained in two large, cylindrical steel bins. One of these bins is for dry fuel and the other for green,each measuring 28' in diameter and 50' high. Fuel is blended as required at the boilers and is discharged from the bottom of the silos by a Miller-Hoft rotating screw at the base of each bin. The steam turbine is a Westinghouse unit, and is powered by steam from two boilers. One is a B&W and the other an Edgemoor.

KEY PERSONNEL

W. Temple Webber, Chairman of Board
Arthur Temple, Jr., President
Latane Temple, Vice President
J. W. Sweeny, General Manager
Frank Sloan, Plant Superintendent
J. J. Boyett, Sawmill Superintendent
John Booker, Chief Plant Engineer
Willard Neal, Personnel and Safety

EQUIPMENT

FILER & STOWELL: headrigs, carriages, trimmer, sawyer-control set works, live rolls, double edger; SODERHAMN: Cambio debarker, metal detector; SCHRAMM: air compressor; SUMNER: chippers; ORTON: railway crane; MACK: tongs; WESTINGHOUSE: motors, turbine, generator; LINK-BELT: chain; PHELPS: chip blowers; MONROE: calculator; MILLER-HOFFT: fuel discharge screws; YATES-AMERICAN: vertical resaw; DIPRITE: preservative; FOOTE BROS.: gear motors; HANCHETT: grinders; ARMSTRONG: filing equipment; L-M: cutoff saw; B&W: boiler; EDGEMOOR: boiler; MOORE: dry kilns; ROTEX: chip screen; SIMONDS: saws; ATKINS: saws; WILLIAMS: fuel crusher; EUCLID-ARMINGTON: bridge crane; ROSS: straddle carriers.

INSPECTION and packaging department for toilet seats. Here every seat is inspected, hardware mounted and packaging handled. 500,000 seats per year are shipped. Note continuous conveyor chain bringing in seats from the dryers after painting.

Half-Million Seats A Year

One of the most unusual departments of the many operations of the Southern Pine Lumber Co. at Pineland, Texas, is the toilet seat plant, where the world famous TEMPLE seats are made. An average of 1650 seats are made here every 8-hour shift, which adds up to half a million a year. These are made to be sold under other brand names also and are shipped all over the world.

The company's adjacent wood flour plant supplies the raw material. A mixture of wood flour and resin forms the substance of the molded seats. The mixture is 15% resin and 85% wood.

The mixed material is first weighed and then cold pressed on a Columbia press at 2,000 psi. The molded seats are next placed in an oven for 45 minutes at 280 degrees. Then they are hot pressed at 360 degrees.

The company has six hot mold presses. These are arranged in three lines of two presses each. Each hot press has four openings. At the average production rate eight pieces are produced every 7½ minutes on each line.

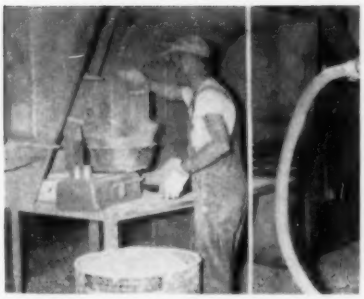
Each seat is numbered at the presses to correspond not only to the press but to the individual opening which produced it. Thus, in case of a defect it can be traced to the press and the opening making the fault.

Next in the production line is a Solem 3-drum sander. After sanding, the six necessary screw holes are drilled in one operation on a Cincinnati "Royal" drill press. A total of seven inspectors examine the seats before they are packed.

An unusual use of molecular action is made in the painting process. Painting is done by applying positively and negatively charged coats of paint. The first coat is black and negative. This is covered with a neutral white coat merely to hide the black. Then follows the application of two white coats positively charged. The molecular attraction of the atomized paint particles forms an inseparable bond between the coats.

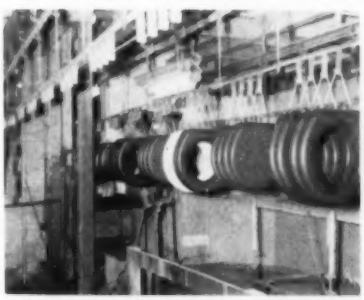
The paint coats are applied to seats and lids as these units are suspended from an endless conveyor chain. The last two coats are applied as the chain moves through two walk-in cylindrical enclosures, one for each coat. The company also makes a plasticized "mother-of-pearl" finish.

The quick-drying enamels used permit almost immediate application of hardware and plastic bumpers. This is done in the packaging department where the completed seats are individually cartoned and shipped ready for installation.

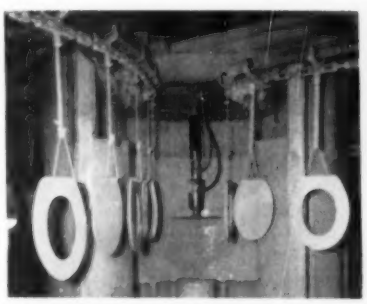


WOOD FLOUR with proper resin mix sifts into molds. Note each is exactly weighed.

MOLD PANS go into hot presses under 2,000 psi and 360 degree heat.

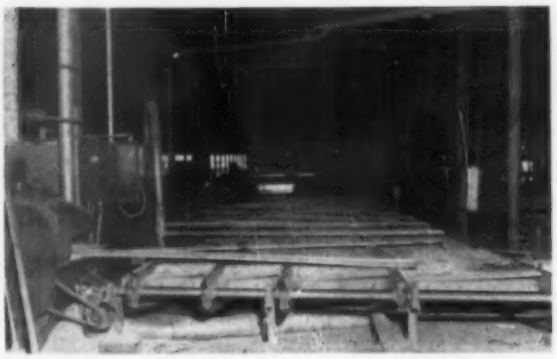


FIRST PAINT dip is into negative charged black coat of paint.



POSITIVE white enamel is sprayed onto seats, next ready for packaging.

[MORE ON PAGE 32]



INITIAL BREAKDOWN of lumber for flooring plant is by two Yates-American D50 rip saws. They feed directly to a Woods surfacer.

BATTERY of Industrial Machine knot saws make first trim of lumber after S2S. Second battery of knot saws are on the finishing line.

END MATCHING of flooring stock behind graders is with an S. A. Woods Machine. Side matching follows with a Yates-American A-23.

FINISHED and graded flooring is stacked in pigeon hole rack. Pulled through on opposite side, it is stacked and bundled.

Pineland's Flooring Plant

The multiplicity of products of the Southern Pine Lumber Company's operations at Pineland, Texas, calls for a closer look at individual plants and departments for a clearer picture of the overall setup. Pineland starts with the logs and ends up with hardwood lumber, flooring, wood flour, toilet seats, furniture dimension, and chips. This is a look at the flooring plant.

All hardwood flooring material has undergone a careful seasoning and drying program before it is ever brought over to the flooring plant. The company air dries this material for a minimum of six months and then subjects it to a critical kiln drying schedule before it is selected for manufacturing.

Initial breakdown of the lumber coming into the flooring plant is made on two Yates-American D50 rip saws. These saws rip to 2⅝-inch widths and feed directly to a table leading to a Woods surfacer. The chains used in this conveyor table are Moline H-150.

The surfacer cuts the rough lumber S2S and in turn feeds to five Industrial Woodworking Machine knot saws. These cutoff saws make the initial cut on the lumber that has been surfaced to size. The stock then moves to a Yates-American A-23 side matcher where the side grooving is put on. There are two such machines, and each handles 145,000 linear feet per 8-hour shift.

Boards are next cut to length and trimmed, after which they proceed through two Woods end matchers and are graded. Sorting and grading is done by four persons, in addition to three graders working behind the end matchers. Sorting is done by length and grade and the material is stacked in pigeon holes open at both ends.

Strappers working on the opposite side of the open boxes pull the flooring and bundle it to length and grade. The bundles are strapped on a Signode steel strapping machine and tallied. The strapping used is Signode ⅜-inch flat band strapping. The flooring plant manufactures 63,000 board feet of finished flooring a day. [END]

Alaska Pine Promotions

Three top executives of Alaska Pine & Cellulose, Vancouver, B. C., have been promoted, according to announcement by president Walter C. Koerner. Gordon L. Draeske, secretary and head of the company's legal department since 1946, has been named vice president, administration; Ross R. Douglas, formerly chief forester and manager of the woods division, is now vice president, forestry operations. Peter Sloan, formerly manager of the lumber division, has been appointed vice president, lumber operations.

•

Arizona Mill Bought by Duke City Lumber

In a transaction exceeding $1 million, Duke City Lumber Co., Albuquerque, N. M., has purchased the Arizona Timber Co. plant at Winslow, Ariz. The purchase includes the plant, inventory and over 100 million feet of standing timber. The purchase adds 30 million feet a year to Duke City's annual production.

T. P. Gallagher, Jr., whose father founded Arizona Timber as Winslow Timber Co. 17 years ago, said the contract stipulates that neither he nor his own firm, New Mexico Timber Co., may cut timber in the same area Arizona Timber is operating.

Elevated Merry-Go-Round for Resaw

solves limited space problem. Now lumber backtracks overhead.

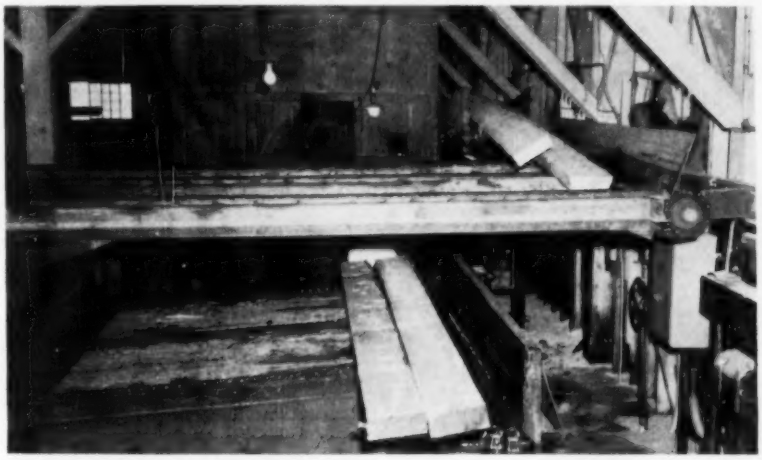
PRODUCTION at the headrig at the Johnsondale, Calif., sawmill of Mt. Whitney Lumber Co. increased 10% following installation of the shop-built merry-go-round. Between 50 and 70% of the daily output at the mill goes through the resaw.

There was no space available on the mill floor for construction of a merry-go-round. Manager Simon Alsaker devised the elevated system, utilizing the five-foot space between resaw and mill wall and the empty space above the resaw feed table.

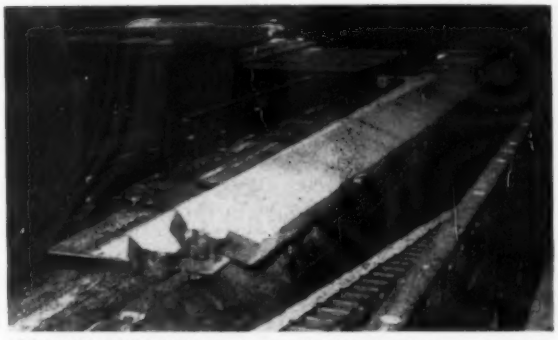
Stock to be re-sawn travels back 180 degrees, past the resaw, and upward nine feet. The lower level of the transfer table it drops onto is seven feet above the mill floor. This elevated table is fitted with two turtleback and one H-type chain. Stock moves 16 feet horizontally and then 9 feet on decline before dropping onto feed table for re-entry into resaw feed.

Resaw now cuts 4 pieces of 6/4 or 4 pieces of 4/4. Before merry-go-round installation, it cut once on double 4/6 and once on double 6/4.

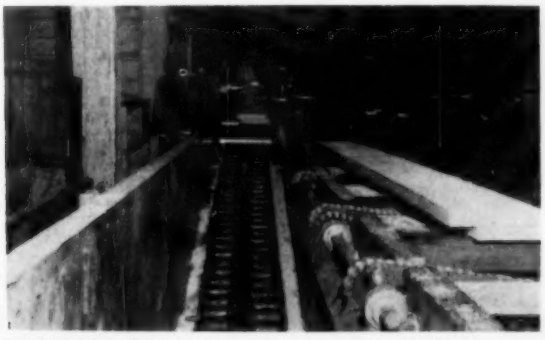
Resaw operator controls resaw feed and elevated transfer table as well. Logs are broken down on an Allis Chalmers 9' band headrig. Mill cuts about 100M a day. [END]



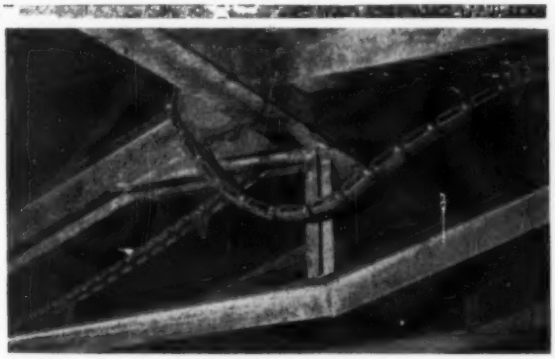
ON TOP, stock which has been through Yates 7' resaw once is on way back, emerging onto elevated transfer chains. This end of the transfer table is anchored to mill wall.



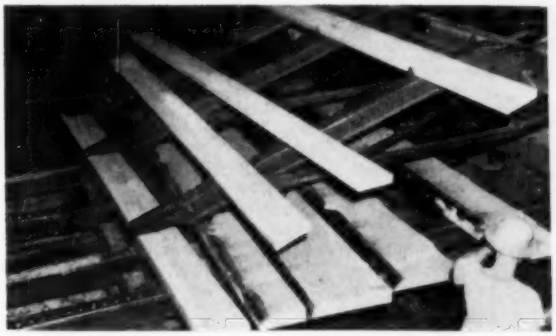
STOCK TO BE RE-RUN topples over brink and onto conveyor chains, two flights of refuse chain. Jump stop acuates shree short chains.



HEADED UP AND BACK, heavy stock moves first on chains, then on 21" wide powered rolls. Listance is 45 feet. First system used rolls.



DETAILS of elevated framework at junction of level transfer and decline. I-beam, 12", is main member. Construction is I-beam or angle iron.



END OF RETURN TRIP is here, where stock drops about 10 inches onto the feed table. Diagonal cuts on I-beams reduce underhang and help avoid pileups.

PACKAGED, finished for lumber is wrapped in plastic-coated packaging and remains clean and unmarred in storage and while stored at the construction site.

Why G-P Is Going to Packaging

A NEW FACE is beginning to appear in lumber and plywood marketing. This factor—packaging—may well change all wood products marketing in the next few years.

One of the leaders in this field, Georgia-Pacific Corp., states a strong case for all the costs and efforts that go into producing adequately packaged and labeled wood products. This concern says it is a necessity in many ways. Among these it tends to place real wood in a marketing strata above many competitive materials insofar as both customer and retailer are concerned. It provides the retailer and supplier alike with advantages, including a chance to merchandise lumber like other products, an opportunity to provide strong brand identification. G-P, which uses plastic protected wrappings, declares that the protection in transit, point-of-purchase cleanliness, protection from moisture all add up to plus points for both retailer and manufacturer. They point out that by

PACKAGING TABLE is marked in lengths. Packages of redwood siding are spot sealed in three places and end sealed.

HANDLING of lumber with lift trucks is simplified, either in loading of cars or handling in storage. Here Clark truck quickly spots packages in rail car. Unloading of cars in equally fast and time saving when received at warehouse and lumber yard. Quick identification also simplifies storage job.

HAND LOADING and unloading are also simplified. Instead of handling one board at a time, package handling speeds job and reduces job of tallying lumber.

What Dealers Say About Packaged Lumber:

"We think that this is the most progressive step taken in the merchandising of lumber since the advent of printing."

"With a good product as finished lumber than commands a good price, we have often wondered why this was not sold in packages before."

"This should make your products very attractive for retail yards to handle."

"The Finish arrived without any dirt, dust or footprints. It rolled easily on the conveyor, cutting both handling and labor costs and also reducing chance for errors in both the unloading and reloading of trailers."

"I believe it is one of the greatest developments in the lumber business in some time."

selling unbroken packages the retailer can up his total sales and because of proper labeling and storage he can keep an accurate inventory.

Georgia-Pacific actually started packaging several years ago when it sought to protect its factory-finished hardwood plywood panelings. For this the company used corrugated, lift-top cartons for the four by eight foot panelings, with brand identification on tops and sides. When its planked, clip-system paneling came along it developed a narrower version of the four by eight carton and included in it everything necessary for customer use, from furring to nails and molding. The carton was well branded.

Shortly after the first of this year, G-P's Redwood Division brought out a factory-sealed Redwood bevel siding in a special waterproofed kraft paper wrapping. Packages are end labeled and the wrapping itself bears bold branding with the company name and trademark. When it came to 20-foot lengths this packaging became a test in paper flexibility which skeptics said would not work out. Time has proved that not only is this wrapping excellent protection but it is also extremely flexible and expands and contracts without rupture.

Early last spring, they made still another move, that of packaging Fir Finish Lumber in waterproofed kraft paper in much the same manner as the Redwood. The same potentials for marketing, inventorying and protection from damage showed up here. Loads of lumber were deliberately dumped to test the wrap and the only damage was an occasional loosened end flap. Laboratory tests of the water proofness of the paper equal to 90 days outside exposure showed it to be 100% protective.

Response on the dealer level to packaged lumber is reported most encouraging. Several problems have plagued the retailer for many years. Marking of finished grades of lumber has been a particular problem. With the new, end-marked packages, the dealer now can know at a glance exactly what kind of lumber, grade and length is in the package. By the same token, the customer can be confident that each piece of lumber within the package is exactly the same quality and in perfect condition. The package allows the dealer to not only receive the lumber in excellent condition but will allow him to stock it for any length of time under any circumstances and still have a clean, unmarred product to offer his customers.

Packaging is providing new "show room" merchandising possibilities. Short lengths of lumber which have always been a problem are now a demand item. The dealer can now take packages of short lengths and set them up in a hobby shop corner for "do-it-yourself" customers. The advantages of neat packaging are pointed directly to the hobby type builder.

Handling costs no longer need to be such a crucial item on the dealer level. This new packaging allows minimum handling and decreases the dealer's labor costs proportionately.

The packaging of Redwood and Fir Finish Lumber is in line with Georgia-Pacific's extensive packaging system which also includes plywood and hardboard. But this is still just the beginning of packaging lumber. Other concerns will undoubtedly follow suit and new forms of packaging and merchandising will appear. [END]

CORRUGATED PACKAGING of prefinished hardwood paneling has been well received by dealer and wholesaler customers.

LUMBER IS STACKED on rail trucks on both sides of building. Stacked in both strapped and unstrapped units, carts are pulled to center aisle for loading and unloading by lift truck.

BRANDED packaged units are pointed out by company president, Q. T. Hardtner.

Package Loading System for truck shipments

ONE MAN HANDLES the loading of lumber for truck shipments at Urania Lumber Co., Urania, La. This is made possible by the completely new packaging, storing and handling facilities. A new storage-loading shed measures 75'x225' and has a clear span capable of housing 750,000 board feet of lumber. The shed is reserved primarily for No. 2 dry and surfaced stock. The company is planning a similar shed for No. 1.

Two factors influenced the change to more efficient storing and handling facilities: (1) the general increase of truck shipments in the south, and (2) the increased demand for packaged lumber. Urania is loading out 90% of its production on trucks, going directly to the yards or to the job site.

The shed size permits trucks to drive in for covered loading, an important factor in bad weather. Loading is handled with a Towmotor forklift which carries an Acme steel strapping reel on the side to further aid the operator. Half of the plant's production is strapped into packaged loads. This includes most of the No. 2 and No. 1 in 8/4 and 4/4 stock. All of No. 1 and No. 2 is end branded, waxed and grade marked, carrying the URANIA brand.

Acme ½-inch flat strapping is used on the packages which are made up into 42" wide units. All packages are of specific size lots and are listed on the inventory. The listing shows the board feet in each package. Copies of these lists go to the salesmen who sell the packages as units.

PACKAGES ARE STACKED on steel rail trucks which roll on 27 parallel tracks on each side of the building. The trucks measure 90" wide by 20' long. Width of the trucks permits two stacks of bundles—which are also the proper width for handling by straddle trucks.

The parallel rail arrangement permits the stacks to be rolled back to the walls for storage on both sides of the building, leaving the main center aisle clear. At the same time, even the most remote stack is easily accessible. The Towmotor merely pulls the carts out to the center aisle. This availability speeds loading of specific orders.

The company manufactures pine lumber, dimension, timbers, paneling and some molding and 4/4 and 5/4 hardwood lumber and oak flooring. Production is 80,000 board feet per 9-hour shift. [END]

LOADING OUT of lumber is directly onto Nabors trailer inside the building is handled with lift truck, one man doing the job. 50% of lumber is packaged.

Constant Air Flow Kiln moves super-heated air into kiln, continuous flow of saturated air out

Lumber is boiled dry in a new dry kiln developed by Diamond Lumber Co. for its operations at Tillamook, Ore., and now being made available to the industry.

Diamond explains that air flow in its kiln does not serve as a drying agent, as in most kilns. The air is maintained at or near saturation as long as there is moisture enough in the lumber to keep it so. Diamond says this keeps the surface of the wood softer for a longer time, enabling the moisture to flow from the wood more rapidly.

The Diamond kiln is divided into two compartments. The larger one is for placement of lumber for drying, the smaller area for the heating room where heat from a direct-fired burner is mixed with the air that is circulated through the lumber.

An auxiliary fan forces a large volume of air into the heating room through the burner assembly where it cools the intense heat from the explosion chamber to a temperature that will be tolerated by the lumber being dried and the wooden interior of the kiln.

The fan, pushing hundreds of cubic feet of air a minute into the heating room causes an equal amount of saturated air to leave the kiln at another point. This constant flow of hot air into the kiln and constant flow of saturated air out of the kiln makes it possible to maintain a uniform temperature in the kiln and saturated air around the lumber at all times.

Diamond says that because the temperature in its kiln does not change, the flow of moisture from lumber is continuous. This, Diamond explains, allows for faster drying.

The drying operation is highly automatic. The kiln is charged with lumber, doors closed, a button pushed. Air inside the kiln is automatically maintained at constant pressure and humidity. Direction of air flow through the kiln is automatically reversed at frequent and regular intervals. One man can handle the entire operation.

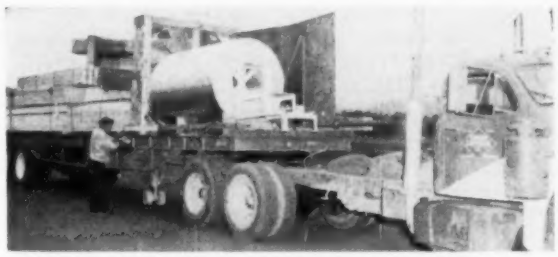
Roy Gould, president of Diamond Lumber Co., conceived the different approach to drying lumber many years ago. It was only recently, however, that an actual kiln was built to prove his concept of drying lumber. Several units are now operating in the industry.

Diamond is producing four units.

DK40M with a production capacity per month of 500,000 feet of Douglas fir or 300,000 feet of western hemlock. Capacity per charge is 40,000 to 50,000 feet. Size of structure is 48x20 feet and 14 feet high. Usable space inside drying tunnel is 40x19 feet. The burner, using nine gallons per hour, has individual motors on blower and fuel pump. The fan is an 84-inch unit with a 7½-hp, 3-phase, 400-volt AC motor. The electric control circuit timer and time delay relays are wired and adjusted at the factory and are set to reverse the fan every 15 minutes. There are two heat controls: one in heat room for overheat control, one in drying tunnel for operation control.

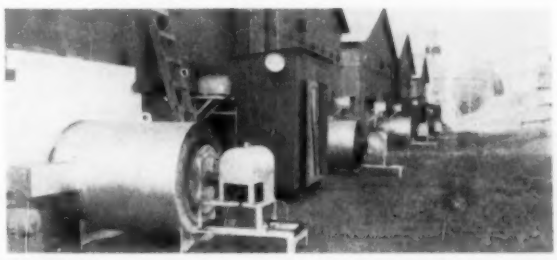
DK80M with a production capacity of 1 million feet a month Douglas fir, 800,000 feet western hemlock. Capacity is 80,000 to 100,000 feet per change in a building 60 feet, 6 inches by 35 feet and 14 feet high. Usable space is 46x34 feet. Burner takes 14 gallons per minute, has individual motors on blower and fuel pump. Other specifications are same as DK40M.

DK160M has production capacity of 2 million feet per month Douglas fir, 1.6 million feet western hemlock. All other specifications double those of the DK80M. [END]

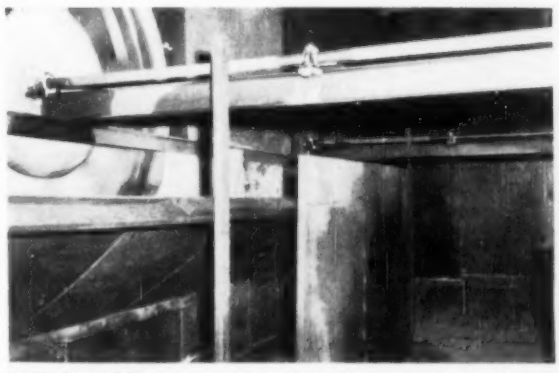


PREFABRICATED KILN can be hauled on truck, is easily erected. Construction is all wood, using scarved ⅜-inch fir plywood for roofing, ½-inch for walls. Interior has asphalt emulsion.

ERECTION AT SITE is simple; mechanic can handle electrical and heating connections. Completed unit is easily fed by lift trucks.



BURNERS at rear of kilns provide heat that is fed inside to heat chambers for movement over lumber. Iron Fireman C-2 burners used.



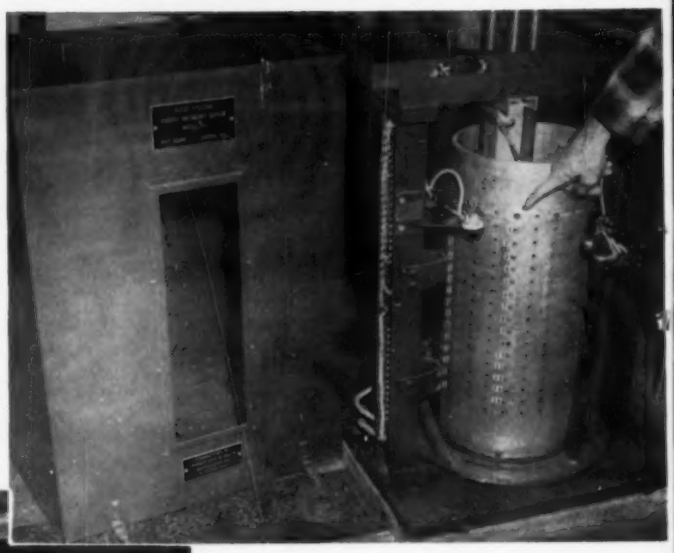
HEAT CHAMBER. Fire comes from barrel, at bottom right. Heat is deflected from steel baffle center. Lovsted 84-inch fan circulates air.

Automated Green Chain

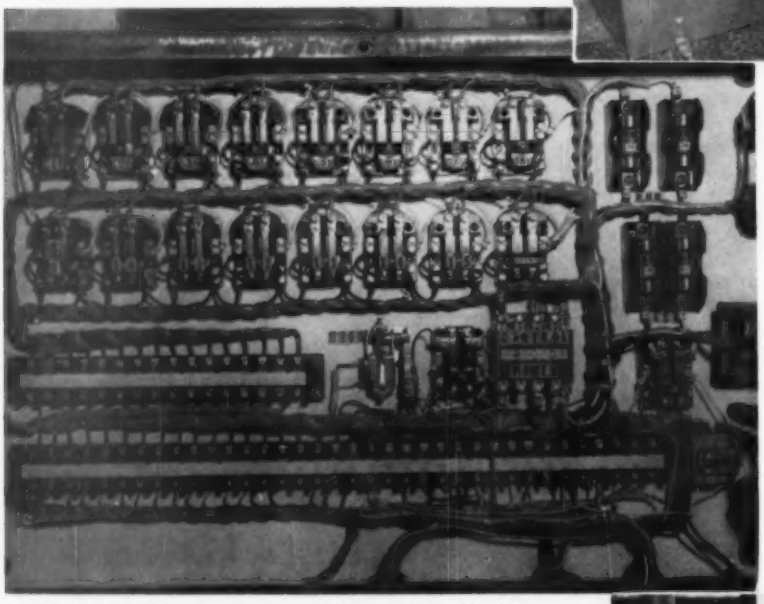
makes sixteen sorts.

INSTALLATION of the memory drum and the last four sorting levels on the green chain at the Ivory Pine Co., Dinuba, Calif., were the final steps in maximum automation of the green chain. It is now a one-man operation. The grader's job has been simplified and, in an average eight-hour shift, he will grade 65M feet, ROM.

REQUIREMENTS for the drum and system were drawn up by the company staff. Fenner/Day & Delta Instrument Co., El Cerrito, Calif., did design and manufacture. The drum is labeled BiDot System, Ivory Memory Drum. All construction on the green chain was done by Ivory's staff.



DRUM and removable cover with glass inspection plate. Diamond-shaped studs topmost on drum activate solenoids, which operate "sorting" studs within drum. Lines of holes parallel with sorting studs are for additional sorts, if needed in future, or for relocation of sorting studs if they show signs of wear. Contacts are mounted in descending spiral, top right to lower left, on far side of drum. Light bulb at top left is indicator of correct operation.



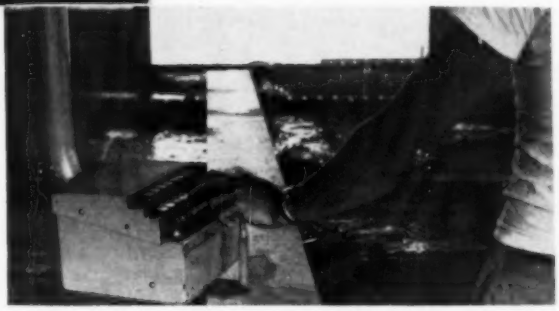
ELECTRICAL PANEL is mounted on wall beside drum. Numbers on coupling strip at bottom match those on the individual relay switches at top. Wiring was routine for skilled electrician.

SORTS

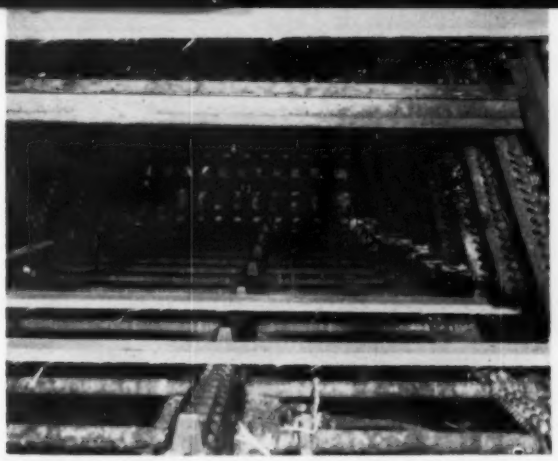
1	1x12 3&4 com
2	6/4 selects
3	6/4 #2 & btr shop
4	4/4 shop
5	4/4 select
6	6/4 #2 & btr shop
7	1x4&10 #2, 3, 4 com
8	1x6 #2, 3, 4 com
9	1x8 #2, 3, 4 com
10	1x12 #2 & btr com
11	6/4x4, 10, 12 #3 & btr com
12	6/4 RW #4 com
13	2 x RW #3 com
14	2 x RW #4 com
15	6/4x6, 8 #3 & btr com
16	spare, used some times

FIVE KEYS in addition to 16 sorting keys on the keyboard are also used: DIP, which controls feed chains in dip vat (Permatox) between trimmer and the grader; SIGNAL, which sounds warning if there is a loose board in the system; FEED, which controls chains on pulsating grading table; GRADE, which halts rythmic pulsating cycle of grading table if necessary in grade determination; HORN, if trimmer is fouled. Grade table operates by solenoid-controlled air cylinder.

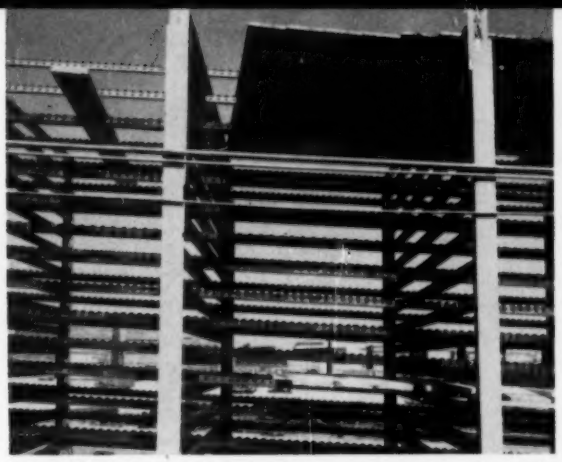
Ivory Pine Co. is perhaps the most highly automated sawmill in the state. It produces lumber, sawdust, bark for orchid culture, pulp chips. E. P. Ivory is president and general manager. Walter LeCasse is assistant general manager.



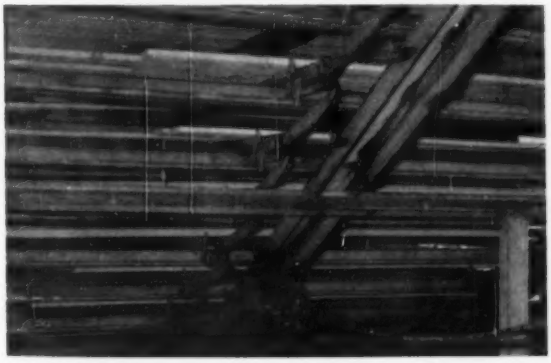
GRADER'S STATION. Keyboard, with 16 keys in two banks, plays with light, piano touch. Hand rest at front aids key selection. Board in picture is resting on pulsating grade table, feeding from left. Studs hold board in alignment and until grade determination. Table rises and falls two inches; pulsates 25 times a minute unless halted. On rise, table lets one board go over studs. Toothed wheel lifts it, speeds it out of way of next board, puts it on short transfer chains. Short transfer chains relinquish board to lug chains. Lug chains are geared, under floor, to drum.



DOWN VIEW of lug chains, which are connected to drum by clutch and mechanical gear. Lug spacing is 36 inches. Boards at top are on the way to stacker. Boards on lug chains are moving down, to be lifted by transfer arms. Skate roll-mounted arms rise at proper moment on memory drum signal. Arms are mounted on axles seen beneath lug chains and lie flat. Closest arm is visible in lower right area of picture.



SIDE VIEW of horizontal transfer shows arrangement of sorting levels. Uprights are 8" H-beams. Cross members are 4" I-beams. Skate rolls are mounted on angle iron. Structure is 200 feet long, 20 feet wide and 16 feet high. Lumber travel is by gravity, with built-in decline of one inch in two feet. Initial installation had 12 sorts. It was decided to bring the total to 16 when the memory drum was integrated into system.



END OF TRAVEL on sorting levels is here. Staggered arrangement of levels matches the incline of lug chains which take lumber up to the stacker. Note accumulation of boards on all levels. Boards are held secure by upright hooks. These hooks are attached to axles spanning the structure. The beak-like transfer arms are attached to the axles also and, by mechanical linkage, drop to transfer lumber to lug chain.

TRANSFER ARM is extension of angle iron mount for skate rolls, but has been separated to form independent unit. Note, also, alteration of arm to a point and the hooks on side of lug chain support beam. Hooks hold points when arms are down. Upright hook holding boards back is visible. Connecting rod, from arm to axle, is inside coil spring, resulting in spring-loaded action forcing transfer arm back up when not in use.

AT THE STACKER END may be seen the steel wires which control mechanical linkage to transfer arms. Wire lengths vary from 10 to 20 feet, matching staggered arrangement of sorting levels. The wires are fitted with turnbuckles to allow adjustment as necessary. Located outside the framework of the horizontal transfer, the wires are easily inspected for signs of wear and are easy to get at for maintenance or replacement.

SELECTION HANDLES at the stacker's position are made from flat steel. On each, slightly more than half-way up, there is welded a cross-arm in which two holes are drilled. The cross-arm slides on a horizontal bar in which a single hole is drilled. The stacker thus may lock the handles in open or shut position by dropping in locking pins. The pins are short sections of steel on which flanges are welded. [END]

ALL-WOOD CONSTRUCTION was maintained in new Oregon Forest Research Center, Corvallis, Ore. $500,000 building houses wood and forest scientists studying methods of increasing forest output and making maximum use of timber crops.

A Promise for the Future of Forest Products

is the way Oregon lumbermen see their outstanding research center

ONE OF THE NATION'S outstanding research laboratories for wood is the new Oregon Forest Research Center, Corvallis, Ore., which is administered by the Forest Protection and Conservation Committee. The modern reasearch plant houses state forest products and lands researchers. The building itself is an effective example of wood use for its economical, utilitarian and appearance properties.

The program is financed principally by a four cents per thousand board foot severance tax imposed upon timber cut throughout the state of Oregon and by a state General Fund appropriation in recognition of the over-all benefit to Oregon's economy. Lands researchers were formerly housed in temporary quarters at Salem, while the products laboratory was located on the Oregon State College campus.

The combined facility is U-shaped with two stories of office and service space in the front and high-loft laboratory space in the two side wings.

Laminated Douglas fir arches with 56 feet of clear span and 16 feet of floor clearance at the center allow wide-open working spaces. The 7x24-inch arches are spaced on 16-foot centers.

Concrete slab was poured throughout the building with thickness varying with use. On the equipment floors up to eight inches were used with ¾-inch bar reinforcing.

The new development is built on a seven-acre site which allows adequate room for expansion should this prove necessary.

The Forest Protection and Conservation Committee supervises research activities and controls expenditures through its Administrator, R. M. Kallander, who also has offices at the Forest Research Center.

FACTS IN BRIEF

Contractor: John M. Steinmuller, Jr., Eugene, Ore.
Architect: James L. Payne, A.I.A., Salem, Ore.
Area: 40,000 square feet.
Cost: $463,930. Including garage and solvent shed, $476,830.
Cost per square foot: $11.59.
Trusses: Timber Structures, Inc., Portland, Ore.
Exterior Walls: Rough vertical cedar siding treated with Cabot's creosote stain.
Interior Walls: Weyerhaeuser and Willamette Fibre & Chip Board particle board, Chapman hardboard and plywood.
Floors: First floor asphalt tile over concrete. Second floor #2 common eastern red and white oak. Concrete in laboratory sections.
Ceilings: First floor Simpson Forestone wood fibre acoustical tile. Second floor west coast hemlock; 2x6 tongue and groove decking.
Roof: Built-up over asphalt impregnated wood fibre insulation.
Doors: Hollow core Douglas fir vertical grain veneer faced.
Interior Trim: Douglas fir.
Furniture: Solid Oregon maple by R. Veal and Sons, Albany, Ore.

LABORATORY EQUIPMENT is of the latest design. Two kilns have been installed with aluminum lining. Weighing devices under the kiln loads will allow continuous determination of moisture content changes in the lumber while under treatment.

A hot-dry room, a hot-wet room, a cold-wet room, and a normal condition room have been provided for conditioning of specimens for working in the timber mechanics department.

Plenty of floor space in the timber mechanics department has been provided for testing large structural components under controlled conditions. An example was the testing program of massive laminated trusses designed for the Portland Exposition-Recreation center.

Experimental pulping facilities and complete laboratories are maintained for chemical study of wood and bark. A flame-proof room with asbestos lining has been provided to permit safe extractions using inflammable solvents. Chemists are protected by high capacity water sprays in each room.

Machine and carpentry shops allow construction of newly developed production equipment and pilot plant apparatus, as well as cutting samples to size for testing and building or maintaining testing equipment.

A total of 30 offices are maintained in the two-story office section which also contains the library, conference room and classroom. The center's large library files numerous research

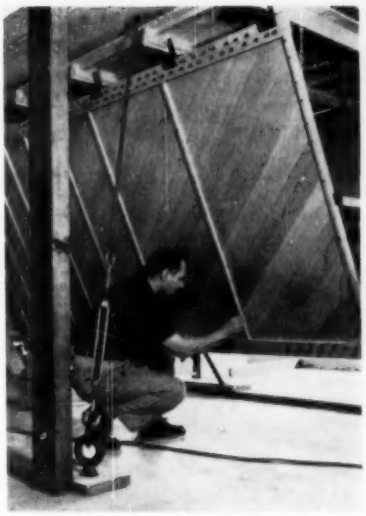
A PROMISE FOR THE FUTURE

OREGON WOODS were used exclusively in reception area of new laboratory. Stairs and stair rails to upstairs offices of 8/4 tan oak, paneling of bigleaf maple.

papers as well as industry and technical journals.

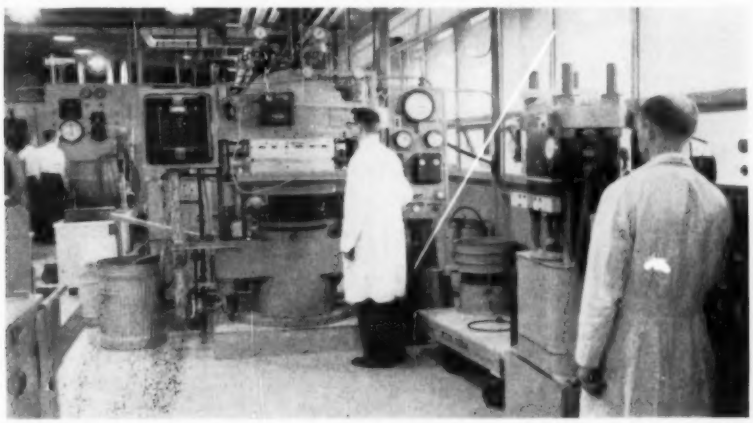
RESEARCH PERSONNEL under John B. Grantham, Director of forest products research, include 17 wood scientists, engineers and chemists. Leif D. Espenas is Chief of physical processing, James D. Snodgrass is Chief of mechanics and engineering, and Douglas W. Glennie is Chief of the chemical division

The 14 forest lands scientists under Acting Director Dale N. Bever are engaged in finding ways to increase forest land productivity, improve timber quality and reduce losses from fire, insects and diseases. Consolidation of the two groups has made possible economical collaboration on projects. A current example is a study of preservative use on wooden power poles with preserving methods being studied by the products section. Insect and fungus attack on the poles in the field is one of the activities of the lands section.



CHIEF OF mechanics and engineering James D. Snodgrass assists in construction of fifth-scale of roof truss designed for Portland Exposition-Recreation center. The truss held twice the design load without failure.

WOOD CHEMISTRY is important section of research work. Harvey Aft, head of chemistry section runs test on bark chemicals.



WOOD FLOOR TILE is pressed from shavings in laboratory presses. Small press at right has gauges at all four corners for close checks. Modern equipment used.

WOOD PRESERVATION SECTION (below) has high pressure chambers to test deep penetration of preservatives. Scales allow weighing of charges at various stages. [END]

Current program includes:

- Accelerated air drying of lumber with fans, to lower shipping costs.
- Kiln schedules for thick Douglas fir lumber, to speed drying.
- Bevel siding from common lumber, to increase sales.
- End gluing of dimension lumber, to utilize shorts.
- Effect of spacing and end distance on strength of bolted joints.
- Production and bleaching of high-yield pulps from Douglas fir mill residues.
- Strength of wood and wood structures.
- Douglas fir wood and bark lignin and bark extractives for full recovery.
- Ammoniated wood and bark as improved soil amendments.
- Service tests of treated and untreated wood products.
- Floor tile from wood and bark residues.

Turning Slabs Into Dollars

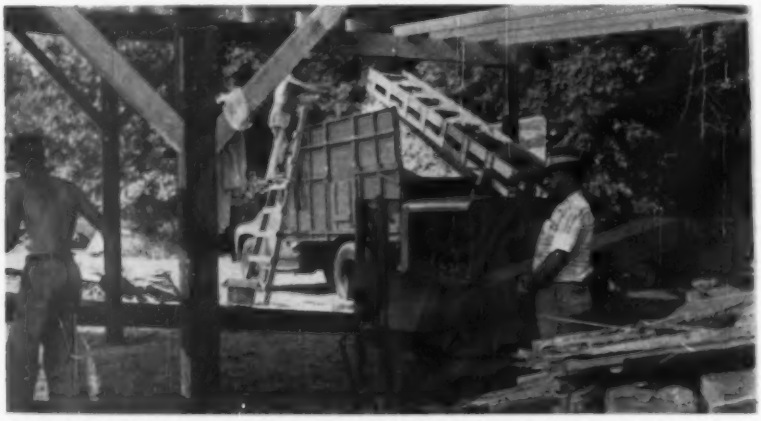
LOCAL MARKETS proved to be a valuable outlet for slab residues for two brothers from Willards, Maryland. Their names are Paul and Denver Richardson and they operate the P & D Richardson mill, supplying high grade lumber for industrial buildings and clearboard for moldings and finish work, from two sawmills and a planing mill.

In the past this company burned its slabs or sold them for firewood, with shavings and sawdust going to a dealer. With firewood markets disappearing and faced with growing piles of slabs and edgings, the Richardsons purchased a Fitchburg wood chipper and set out to develop a profitable sideline for wood chips. With a chipper that would handle slabwood and edging up to 15 inches or more in width, they found the sale of chips for poultry litter to be a real hit. Additionally, the brothers raise 100,000 broilers for several feed companies, so they had a two-fold interest in developing a high-grade absorbent poultry litter that will clean out easily.

Today they keep five trucks on the road and sell at least 75 loads of sawdust, shavings and chips each week to six feed companies in their area. Chips have become so popular for litter that woodchips now made up ⅔ of their deliveries.

The Richardsons have developed a somewhat unique arrangement that works well for them in chipping. A ball-bearing conveyor is set up next to the chipper and slabs are simply laid on this rolling device with bark side down. The dirt is knocked off as slabs hit the knives and permits the chipping of an extra load or two before changing blades. Up to nine loads are chipped before knives are removed for sharpening.

An electric-powered conveyor carries chips to load the trucks. [END]



SLABS FED bark side up to Fitchburg chipper are conveyed directly to the truck. Owner Paul F. Richardson, right, keeps tab on the operation.

TWO TRUCK LOADS of pine chips leaving the P & D Richardson yards at Willards, Maryland to deliver litter to broiler houses, part of 75 loads produced weekly.

Volume Measuring Device Patent Awarded Millman

Joe Carter Denman, Jr., production manager for Southern Pine Lumber Co., Diboll, Tex., has been granted a U. S. patent on a "Volume Measuring Apparatus."

Denman is the inventor, along with Bob Hansen, formerly of Diboll. The pair has assigned 50% of the patent to Southern Pine Lumber for that firm's "assistance in settling legal barriers."

The device, Patent No. 2,860,420, relates to improvements for measuring and recording the volume of objects, such as lumber, and other articles with substantial length, thickness and width.

The inventors say the new device will substitute automatic measuring for visual estimating and will record the results in such a manner that the number of board feet passing over a chain in any time period may readily be determined.

Denman has worked on the device since 1952. He attempted several approaches to the problem, then decided he needed another engineer with whom to discuss the possibilities. In 1954 he started working with Hansen.

Negotiations are being made with a west coast machine manufacturer to market the invention, which will be called the "Temple-Denman Volume Measuring Apparatus."

●

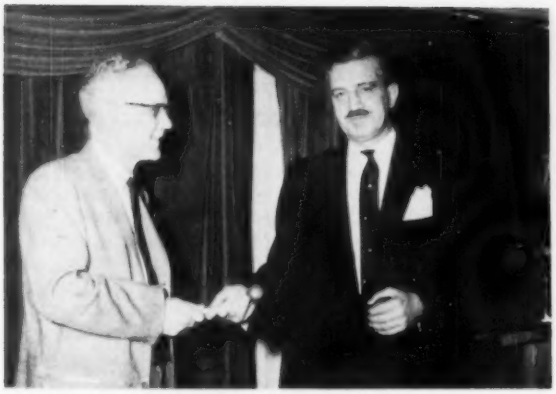
B. C. Mill Planned

Tony Fernandez, Longview, Wash., logger, has announced plans to transfer his operation to Canada where he will develop 144,000 acres of timberlands in British Columbia which he purchased over two years ago. Fernandez says his Canadian firm, Selkirk Timber Products, has signed an agreement with Pike Lumber Co., Spokane, Wash., for erection of a $500,000 sawmill at Tye, B. C. The B. C. timber tract is estimated to contain a billion feet of spruce, pine and hemlock.

●

New Planing Mill Due

Pack River Tree Farm Products will build a new planing mill at Coeur d'Alene, Ida., to replace a plant destroyed by fire last summer. The new plant's 75,000 square feet of roof will cover 59,000 square feet of floor area and railroad trackage to accommodate 13 box cars. Equipment will include three A-20 Yates-American planers, one to be a double profile unit. An Irvington semi-automatic selective trimmer will precision-trim and end-stamp lumber with Pack River's trade name "Qualitized."



OUTGOING PRESIDENT Howard A. Hanlon, left, who presided at the meeting, yields gavel to newly elected president Bernard Bock, right, of The Eagle Lumber Co., Ltd., Montreal, Que.

NHLA Adopts "Forward Look"

"SELL HARDWOOD" was the admonition of Howard A. Hanlon, president, to the lumbermen attending the 61st Annual Convention of the National Hardwood Lumber Association, Chicago, Ill., November 11-13. "With modern forestry, the hardwood industry is just beginning," Hanlon said. He went on to say that we do not know where the atomic age will lead us, but we do know that our hardwoods will be wanted by those people who appreciate the finer things in life. Hanlon felt that with the newly elected officers, representing the cream of the industry, NHLA is really geared for the "Forward Look."

POLITICS ENTERS PICTURE: Up until now the big politics have been more of a threat than a reality. Now it is a reality! "Organized Business in Politics Is a Must" was the keynote address by The Honorable Ralph W. Gwinn, United States Congressman from New York. He said it is a dangerous fact that business is predisposed to do nothing about politics. Gwinn said the situation in this country is parallel to the one in Germany under Hitler who said he was, "glad to note the German business men are not aware of what is happening to them."

EMPHASIS ON GRADING: In his "Canadian Comments," H. R. Robinson, president Canadian Lumbermen's Association, told the assembly that standardization of grading is not to be taken lightly. Canadian grading rules, soon to be published, are modeled after those of United States. "Uniformity of grading is highly important in uniting the efforts of Canada and United States in marketing hardwood," said Robinson.

M. B. Pendleton, secretary-manager NHLA, said 1959 can be one of the finest periods of business the hardwood men have ever had.

Another Canadian, Michael Bernath, general manager, Art Woodwork Limited, Montreal, Quebec, told the convention the tide of competitive material must be met in the executive office. Here it is that the greatest inroads into the use of wood are made, by substitutions for wood in desks, chairs, etc. The exciting design in office furniture is done in wood, Bernath said, and he then suggested the adoption of the slogan—"Wood Does It Better."

NEW GRADING RULES APPROVED: The Rules Committee recommended the adoption of a number of rule changes to become effective January 1, 1959. Most of the recommendations were approved, and those using the 1958 edition of the Inspection Rules Book are urged to refer to the Bureau for the changes. Most of the changes pertained to hardwoods for construction work, and hardwood lumber for the manufacture of wall paneling; and sapwood and heartwood. The recommendation that certain rules be deleted from the book because they are seldom used was not approved. [END]

FOR 40 YEARS of service, retired chief inspector W. A. Nelson, right, receives watch from U. S. inspectors. Charles E. Sell, left, director of NHLA-sponsored J. W. McClure Inspection Training School, Memphis, Tenn., makes the presentation.

NEW OFFICERS are: President, Bernard Bock, The Eagle Lumber Co., Ltd., Montreal, Que.; first vice-president, Franklin T. Griffin, The Franklin T. Griffin Co., Chicago, Ill.; second vice-president, Mark Townsend, Townsend Lumber Co., Stuttgart, Ark.; third vice-president, James P. Hamer, J. P. Hamer Lumber Co., Kenova, W. Va.; continuing as secretary-manager is M. B. Pendleton, Chicago.

FOR OUTSTANDING effort in behalf of NHLA Inspection Training School, past NHLA president H. D. Gaines, left, receives a plaque from president Hanlon, right. Mr. Gaines heads Gaines Hardwood Lumber Co., at St. Louis, Mo.

Know Your True Cost
with
WOOD-MOSAIC QUALITY FACE VENEERS

Why tie up your money in inventory of raw flitch veneers and freight? Wood-Mosaic tapeless, spliced faces are matched, trimmed to size and ready to lay at the glue press.

Wood-Mosaic offers this facility in both face veneers and poplar crossbanding. All shipments well packed and crated.

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An impartial valuation by General Appraisal provides this proof. Your up-to-date appraisal with insurable, present and replacement values are irrefutable evidence . . . for fast settlement.

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Debarking at Mill in redwood operation

reduces costs, increases lumber yield and byproduct recovery

Conversion from partial debarking of redwood logs in the woods to complete debarking at the mill site can reduce milling costs, increase lumber yield and increase recovery of usable byproducts.

Results of tests at Union Lumber Co., Fort Bragg, Calif., show the following results, during a time when log quality was declining:

- 17.2% reduction in manufacturing costs per 1000 feet.
- 2.1% increase in over run.
- 1.5% increase in redwood uppers.
- Production of bark-free chips rose about 74%.
- 500 pounds of bark, dry weight, per 1000 board feet Humboldt log scale were available.

making direct comparisons of grade recovery difficult. Percentage of uppers, however, has increased. A conservative analysis of the available green chain tally records indicates an increase of at least 1.5% in the percentage of uppers during a period when log quality had declined.

Actual chip production rose 74%. Additional chip production was possible but was dependent upon the amount of fuel required for power, the availability of chip cars, chipper capacity and the amount of chippable material which could be passed through the trim saws since no chip recovery was made from material which passed through slasher saws.

When wood debarking was terminated, the log weight per 1000 board feet of log scale increased. The result-

Total production cost and the direct labor costs per MBM of lumber product before and after the debarker was installed.

Operation	Total Production Cost		Direct Labor Cost Only	
	Before	After*	Before	After*
Dry Piling	3.7%	3.0%	1.6%	1.6%
Pond	10.5	7.0	11.4	6.9
Mill Log Transfer	3.0	5.1	2.5	3.6
Filing and Grinding	4.3	4.0	5.6	5.2
Sawing	64.2	51.1	59.3	52.6
Remanufacturing	14.3	12.6	19.6	16.7
TOTAL	100.0%	82.8%	100.0%	86.6%

*Based on costs of processing woods-debarked logs.

In making the comparison on before and after, Union did not separate costs by species. Actually, this dilutes the percentage figures except in the case of chip production as debarked Douglas fir logs are not necessarily faster to saw, and grade recovery and over run are not affected by bark removal.

Debarking in the woods, which had decreased in recent years, allowed rocks, dirt and other foreign matter to become imbedded in the logs, creating a hazard to mill equipment.

Now, logs have the protective coating of bark clear to the debarker and are washed on the ends to remove any material that collects.

The Union study shows that mill cut per head saw hour as the result of complete debarking is up 7.8%, labor force is down 5.9%. This means an increase in production per man hour of 14.6%.

A 2.1% increase in over run on Humboldt scale results in 2% greater recovery in lumber. Logs are not graded at any point in the operation, sulting increased hauling weights would be an important consideration to operations dependent on public roads for log transportation, but, in this case, the operation was not appreciably affected because of the preponderance of private road and railroad haul.

Other apparent improvements include reduction in accident hazard and fire hazards at the plant, and better reproduction and lessened fire hazard in the woods. [END]

●

Southwest Lumber Plans Sheetboard Production

Southwest Lumber Co. in Flagstaff, Ariz., expects to be in production of sheetboard by early spring. New equipment built by Cranston Machinery Co., Portland, Ore., will overlay No. 5 pine board on both sides with kraft paper to produce 2x8-foot panels in a process developed by Western Pine Association. The panels will be produced in various thicknesses.

New Mill Office Displays Hardwoods

The recently completed office of Hillyer-Deutsch-Edwards, Inc., Oakdale, La., lumber company, is a modern all-wood structure with excellent utilization of native hardwood paneling, inside and out. Southern pine laminated beams and oak floors are also used.

A total of 16 species were used throughout the building. These include: locust, cypress, holly, black and sweet gum, Southern yellow pine, magnolia, white and red oak, cherry, cottonwood, sycamore, ash, willow and hackberry.

Other than the photographs shown here, the office of J. B. Edwards, president, is panelled in red oak of unique design with an attractive natural finish. Desks were made of figured red gum of Early American design. Floors of herringbone pattern 25/32"x1½" red oak. A conference room is done in black gum and a map room of locust.

EXTERIOR of the one-story office is faced with parquet blocks of figured gum. There are no posts in the building, the roof supported by six 50' laminated beams of No. 1 shortleaf pine 2x8s. Office covers 7000 square feet of space. Flat roof deck of 2x6 tongue and groove pine. Accoustical ceiling tile was used. Hillyer-Deutsch-Edwards are one of leading southern manufacturers.

OFFICE of vice president Parrish Fuller is a display of hardwoods. One wall is "Bamboo" pattern yellow pine with three different wiped white finishes. Another wall is Colonial pattern pine with wiped finishes of white, green and light yellow. Another wall is of sap black gum and a fourth wall and bookcases are of willow. Floors of herringbone oak, furniture of quarter sawn black gum.

RECEPTION ROOM and offices looking toward the front entrance. Reception room is in background. Private offices are on the right and general offices in left background.

GENERAL OFFICE interior section of building showing uses of wood. Southern pine laminated beams and oak flooring was used throughout. Walls in this section are cottonwood paneling. [END]

South Adds Dry Standard To Area Building Code

A 19% moisture content limit on lumber going into homes and other buildings has been approved for inclusion in the Southern Standard Building Code. Also included is a requirement that American Lumber Standard sizes be set as "dry" or net sizes.

The Southern Standard Building Code is in effect in nearly 800 southern cities and towns.

The move to the dry standard was backed by all the lumber agencies and associations in the south. Also favoring the move were the National Small Homes Council and the Research Department of Purdue University.

Opposition came from the National Lumber Manufacturers Association and the West Coast Lumbermen's Association.

•

Boise Cascade to Rebuild

Boise Cascade Corp. will rebuild its mill at Council, Ida., which was destroyed by fire last fall. Some equipment from the recently purchased Simplot mill at Horseshoe Bend, Ida., will be used. Operation is anticipated by mid-summer.

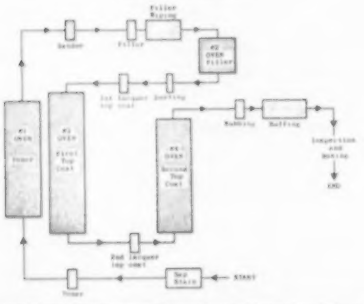
NEW FINISHING SECTION added to U. S. Plywood Corp. plant at Orangeburg, S. C., occupies 40,000 sq. ft., at left on main plant building. It becomes the first completely automatic prefinishing operation. Building is one story high and windowless.

Automatic Prefinishing at U. S. Plywood

FACTORY PREFINISHED hardwood paneling sales more than doubled last year and to meet this growing demand United States Plywood Corp. made a 40,000 square foot addition to its Orangeburg, S. C., plywood plant. The prefinishing addition incorporates a production line that represents the closest approach to complete automation in the industry. The entire plant now has over 200,000 square feet under one roof and includes every step required to convert logs in the pond to beautiful hardwood panels ready to install.

Production in the finishing department averages 50,000 square feet per 8-hour shift. This almost triples the plant's previous production which ran 15,000 or 20,000 square feet a day. Anticipated output for the year is 13,200,000 square feet of prefinished plywood.

FLOW PLAN



The automated production line, guided by electronic controls, continuously sands, coats, and bakes the finish on the hardwood panels with a minimum of hand operations, much like an automobile finish is applied.

AN ELECTRONIC "BRAIN" controls the entire finishing process. A series of 18 different operations, is automatically controlled by a Westinghouse master control panel. This panel has 82 "cells" to do the "thinking" of each of the production steps. The panel is walled off in a separate high-voltage room, a factor which permits the use of standard switches.

At four strategically located points around the production line there are readily accessible push-button controls that are connected to the master control panel. These controls are also connected to an intricate system of warning lights and buzzers. If anything goes wrong anywhere along the production line, someone is alerted immediately and can push the right button to stop the entire system. There are points along the line where a finish would be ruined if the panel stopped. But, this system holds spoilage to a minimum, and usually a refinish job is all that is needed.

It takes 97 minutes for a panel to travel the full length of the 784-foot production line. There are 320 panels moving along this line at one time and they arrive at the packaging bench at the rate of four per minute.

THE FINISHING PROCESS begins with the application of sap stain. This is applied by two men armed with air guns, one on either side of the horizontal line. This is done to harmonize the natural wood colors with any discolorations from sapwood.

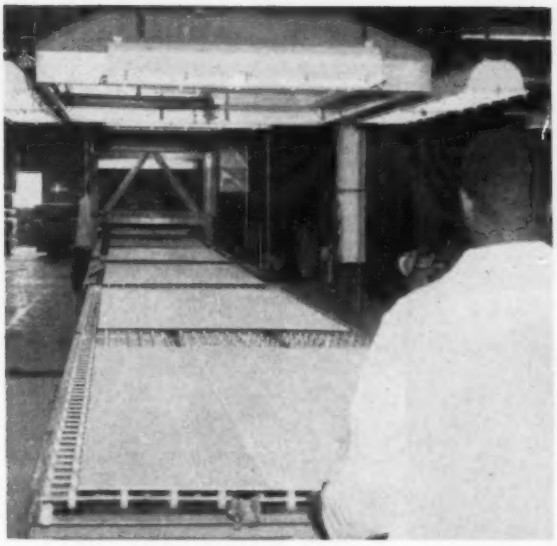
Rollcoaters, brushes, buffers, and ovens occupy their respective places along the production line. The first rollcoater applies a back coating. Back coating is desirable for stabilizing all panels which are to carry a finish on the face. This helps to equalize stress and minimize absorption of moisture. Back coating is the single lacquer type.

The next rollcoater applies a toner, which seals the color and makes it uniform. At stations where color may be changed, as in toning, there are a number of rollcoaters mounted on casters for quick changes to suit production schedules. Each is loaded with a different finish, so there is no need for emptying and cleaning up each time the line is changed from one type of finish to another.

After making the first right-angle turn in the line, the panels move into the first of the Ross ovens which bakes the toner to a bone hard surface.

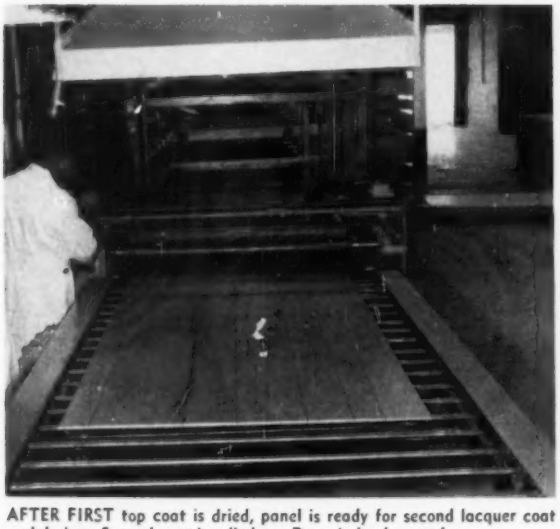
Emerging from oven No. 1 the panels make the second right-angle turn and pass through the first Timesaver sander, a 50-inch machine equipped to smooth the surface for a more uniform filler application.

(Continued on page 48)

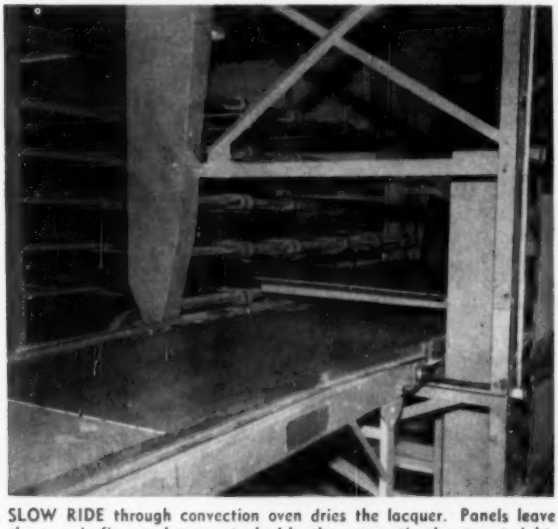


SOME PANELS require sap staining as initial treatment. Stain is sprayed on to completely blend tone for fine finishing.

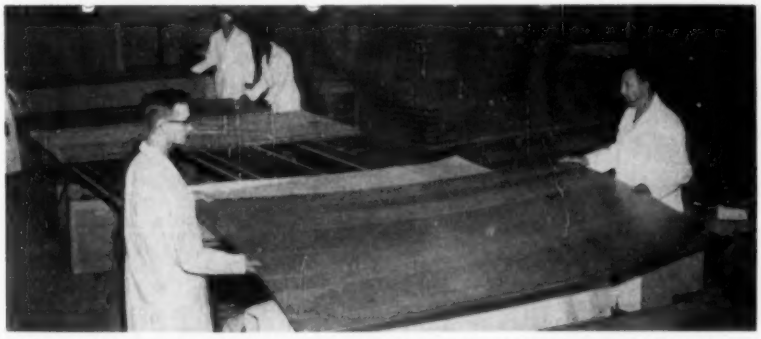
BEGINNING of the automatic prefinishing process, where the unfinished hardwood panels are placed on this conveyor. From here on no hand touches them during 97 minutes through process.



AFTER FIRST top coat is dried, panel is ready for second lacquer coat and drying. Second coat is rolled on. Dryer in background.



SLOW RIDE through convection oven dries the lacquer. Panels leave the oven in fives and are unstacked by the automatic elevator at right.

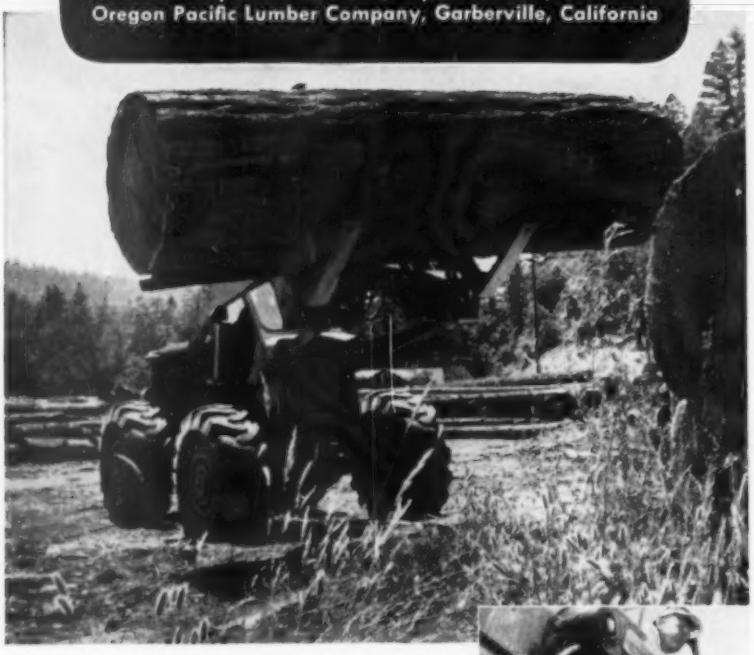


PACKAGING of panels requires care. After final inspection, the finished panels are laid up in packages of six, with tissue between each panel to fully protect the surface.

AFTER 97 MINUTES panels come through buffer and off the line. Total of 320 panels are on the line and will come off at rate of four per minute. Beautiful, durable finish is completed.

"We Have Standardized on Aeroquip Hose Lines"

Reports P. R. Allen, Superintendent, Oregon Pacific Lumber Company, Garberville, California



This 175A Michigan Loader handles long logs at Oregon Pacific's cold deck.

Dependable Aeroquip Heavy-Duty Hose Lines are used for hydraulic applications throughout the Redway stud mill operated by Oregon Pacific Lumber Company.

"We standardized on Aeroquip Hose Lines because they can stand the pressures," says Superintendent Allen. "And, we can make replacement lines right at the mill using Aeroquip Bulk Hose and Reusable Fittings".

The Aeroquip Distributor in your area will be happy to give you full details on the many advantages you get with Aeroquip. Call him today!

Heavy-duty Aeroquip hydraulic lines on the Michigan Loader withstand rugged logging work.

A mechanic installs this Aeroquip Hose Line on the 2000 psi. hydraulic system of the head rig in the stud mill.

Aeroquip

REG. TRADEMARK

AEROQUIP CORPORATION, WESTERN DIVISION, BURBANK, CALIFORNIA

Aeroquip Northwest Warehouse, 635 N.W. 16th Ave., Portland, Ore.

AEROQUIP PRODUCTS ARE FULLY PROTECTED BY PATENTS IN U.S.A. AND ABROAD

U. S. PLYWOOD

(Continued from page 47)

The next coat applications follow much the same procedure—application—wipe—brush in—dry. These applications are successively: Filler, first lacquer top coat, and second lacquer top coat. There is also a cleaning brush between the filler and top coat systems.

The filler drying oven is followed by the two top coat drying ovens, with the necessary equipment between. Each of these ovens has completely automatic controls, five decks, and four sections. Temperature variations in the four sections may be designated as flash, intermediate heat, higher heat, and cooling. There is no sanding between first lacquer drying and second lacquer rollcoating.

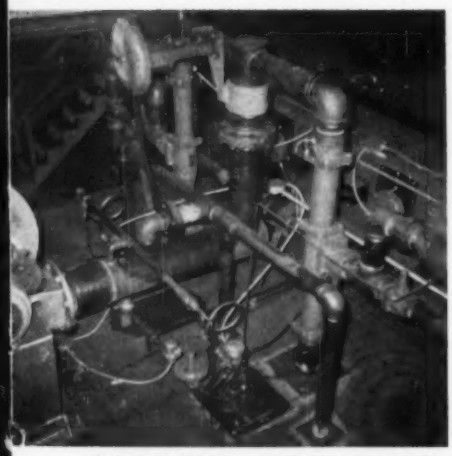
With the final top coat dried, the panels pass successively through another Timesaver sander, a rubbing machine, which smoothes and makes uniform the lacquer finish, and finally through a top coat buffing machine which brings the finish to a pleasing lustre.

PACKAGING DEPARTMENT is at the end of the production line. Here the panels are fed automatically from the conveyor line to a table for final inspection. Rejects are set aside on trucks. Accepted panels are packaged, face to face, with sheets of white bond paper between them—six per package. Packaging is done on a company-made machine that was engineered by the Bemis Bag Co. Both cartons and bags are used.

The whole production line, which requires only seven workmen, was designed by E. F. Oeffinger, finishing manager for the plant. Phil Adams is general manager, and Harry E. Back is production manager.

Weldwood, U. S. Plywood Corporation's trade name for its plywood, is made in a wide variety of handsome woods. A few of the more popular varieties are Sliced Walnut, Cherry, Samara, Red Oak, White Oak, African Mahogany, Korina, Philippine Mahogany and Birch.

PREFINISHED WELDWOOD answers the particular needs of two primary markets. One is the "do-it-yourself" market, which has broadened from a hobby to an economic necessity because of increased labor costs in the building field. The other is the commercial remodeling of homes, offices, stores, and other non-residential structures. [END]



GAS BURNERS are installed in each of the Coe dryer's two zones between circulating fan discharge and hot air downcomer ducts. Exterior valves shown. Burners inside dryer.

Better Quality Veneer Produced

with gas drying has added benefits:

- Less operating cost
- Less maintenance
- Exterior glueline possible
- Dryer fires eliminated

JEFFERSON PLYWOOD CO., Madras, Ore., wanted a better method than their existing oil-fired system to dry veneer without the cost of a steam boiler installation.

The company peels logs grown on a variety of forest sites in the Oregon high Cascades with a consequent high spread of moisture contents. Direct oil-fired drying did not provide rapid enough control to produce a uniform product.

In addition, Jefferson Plywood was looking ahead toward exterior glueline production, not practical with direct oil-fired drying.

Their problem was solved with a butane operation designed and installed by Heat and Control, Inc., San Francisco, Calif., on the Coe 14-section, 5-line dryer.

UNIFORM PRODUCT is now produced as heat control is of most rapid response. Exterior production is possible, according to tests on the veneer by major glue companies which indicate the product would pass exterior glueline tests of the Douglas Fir Plywood Assn.

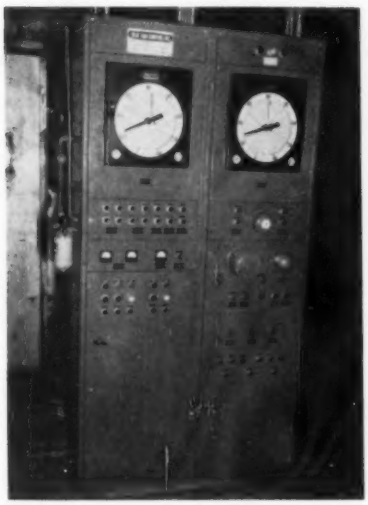
OPERATING COSTS are down, according to plant manager J. P. Andrews, who more than offsets a slight increase in material costs by elimination of the dryer tender formerly required with the oil operation. Present costs are $1.35 per thousand square feet with oil costs formerly running $1.04 per thousand.

LESS MAINTENANCE is required with the cleaner operation which has also eliminated dryer fires. Pitch volatiles are incinerated. The 380-degree maximum temperature provides increased fire safety.

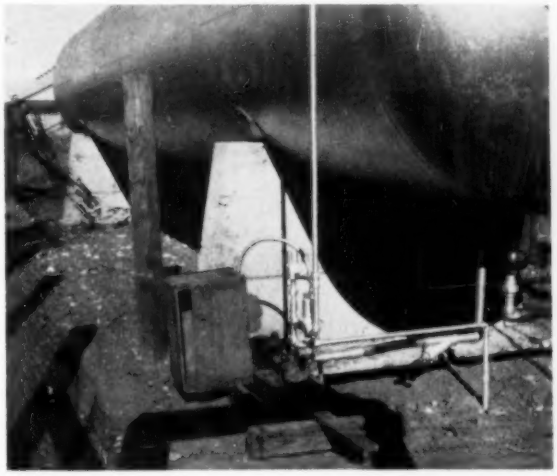
DURING START-UP positive purge cycle is provided to completely purge the dryer with fresh air before spark ignition is possible. Electronic flame-failure devices prove out the spark-ignited pilots before the main burners are allowed to come on.

In case of interruption of flame, gas flow, combustion air, circulating air flow or oven-temperature, the manual reset valve on gas flow is closed instantly. Temperatures drop immediately since there is no heavy heat storage capacity in the system.

VAPORIZING is done by a circulating hot water type vaporizer with a 200-gallon-per-hour capacity. Plant design was by F. "Woody" Commins with installation made by Metro Engineering and Service Co., San Francisco, Calif. Calor Gas Co., San Francisco, is furnishing the 40,000 gallons of butane required monthly. [END]



CONTROL PANEL (left) remotely controls all dryer functions. Necessary adjustments made by veneer grader. Panel built by Heat and Control, Inc.



STORAGE TANK (right) is 18,000-gallon unit. Corken pump driven by Leland ¾-hp motor pumps gas to vaporizers.

UNLOADING OF LOGS from rail car is accomplished with Link-Belt Speeder crane. The four-prong clamshell grapple takes about half a cord per bite. About 60% of the plant's wood comes by rail.

Using Mixed Ground and Chipped Wood

Flintkote Co. insulation board plant at Meridian, Miss., consumes 1500 cords per 7-day week on three shifts

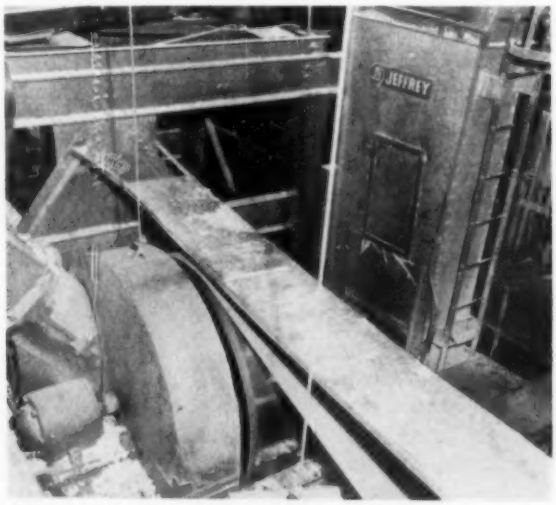
PULPWOOD is the principal raw material used at the Flintkote Co., Meridian, Miss., plant. This insulation board plant employs approximately 450 people and consumes about 1,500 cords per 7-day week while operating 3 shifts per day.

About 60% of the wood used at Flintkote arrives by rail and the remainder by truck. One trucking contractor handles all the hauling within a radius of 30 miles. Part of the pulpwood comes from Flintkote forests which are under the care and direction of Mr. J. S. Cooper, chief forester, and his staff.

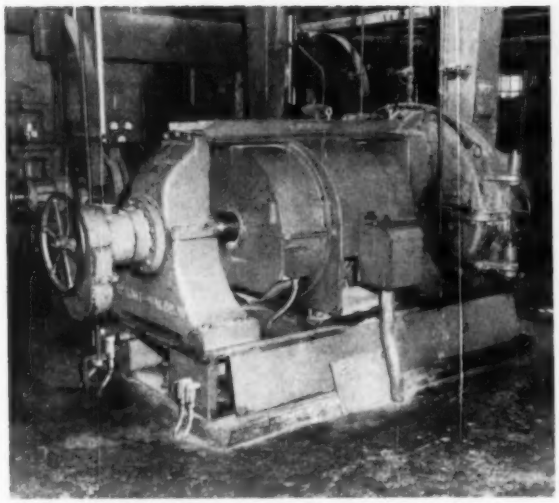
LOGS ARE UNLOADED by a Link-Belt Speeder crane at the Meridian yard. The crane is equipped with a 4-prong orange peel grapple, capable of taking approximately ½ cord per bite. Logs are either piled in the yard for storage, or placed directly on a conveyor chain running in a steel trough. This chain terminates at an inclined log haul leading up to an all steel building housing the cut-off saws, of which there are two, both 60" circular with inserted teeth. Logs are cut to 31½" lengths with the trimmed end blocks dropping to a one-ton truck with a bin on the bed, after which they are taken directly to the chipper. The bolts are next fed into a drum barker of standard design, manufactured by the D. J. Murray Co.

THE DRUM IS 10' in diameter and 42' long, the cylinder of which is formed of "U" beams with the flanges turned toward the outside of the drum. It takes the logs approximately 10 minutes to pass through the drum of the debarker, which holds 15 to 20 cords of 31½" wood. Barked logs are supplied at a faster rate than they are utilized. Any wood not needed in the mill is kicked off the conveyor from the barking drum and furnishes a supply in the pool for night operation of the mill. Another Link-Belt Speeder crane, smaller than the unloading crane, handles material in this storage space. As these logs are

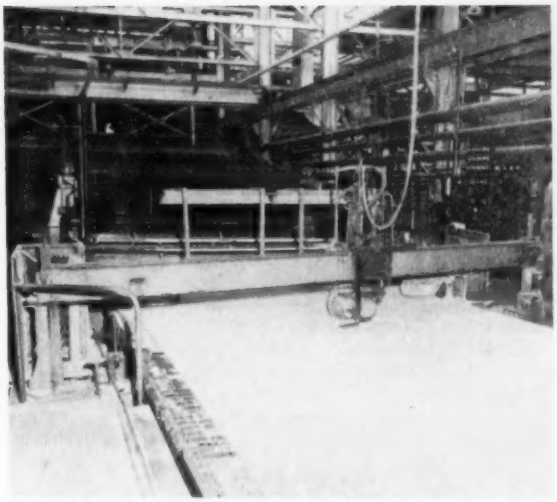
DRUM BARKER is 10 feet in diameter, 42 feet long. It holds 20 to 25 cords of 5-foot wood which takes 15 to 25 minutes to pass through.



CHIPPER is a D. J. Murray unit, working with Jeffrey vertical bucket chain conveyor that carries chips up and dumps them on screens.



REFINER EQUIPMENT includes Sprout-Waldron and Bauer units. Sprout-Waldron refiner is in foreground, Bauer in background.



WETBOARD CUTOFF SAW is Coe unit that cuts 14-foot wide mat into 21-foot lengths. Saw travel is synchronized for right angle cut.

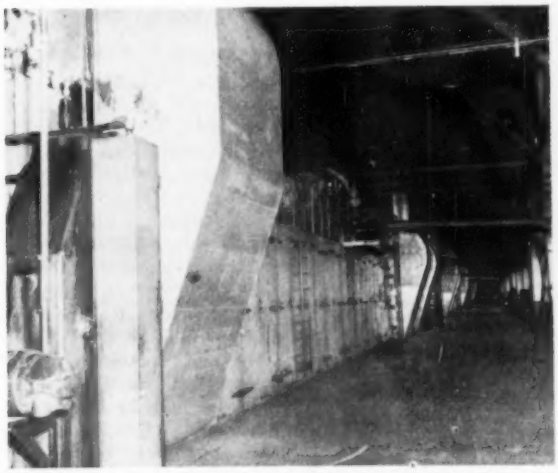
needed they are fed into the plant via another conveyor. Bark from the barking drum is burned in the boilers to supply the steam requirements of the mill.

FLINTKOTE REDUCES THE WOOD by both chipping and grinding, and the two resultant products are mixed. Grinding is done by 4 Montague grinders while the chipping is accomplished with a D. J. Murray chipper. A vertical bucket chain conveyor carries the chips from the chipper to overhead storage bins. Primary breakdown of the chips is accomplished through utilization of two defibrators. Defibrator stock passes through either a Sprout-Waldron or a Double-Head Bauer for secondary refining. Blending of the ground wood and refiner stock occurs prior to dewatering by a Dorr-Oliver decker.

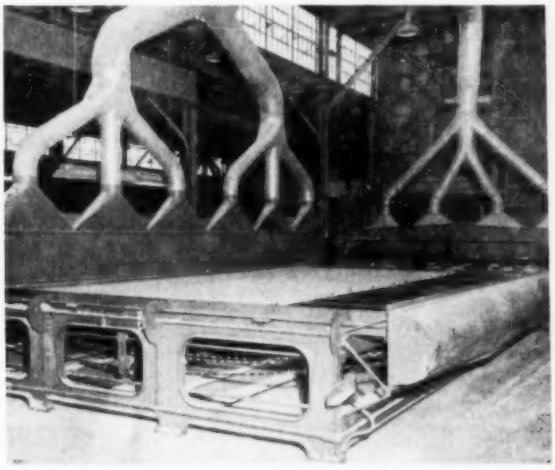
BOARD FORMATION is done on a Downingtown Fourdrinier. In this step of the process, the machine furnish is transformed from a slurry to a wet-mat. A roll conveyor carries the 12′ wide wet-lap as it comes from the press rolls of the forming machine, at which point a cutoff saw cuts the wet-lap into the proper lengths. This saw travels an angled beam, but is so synchronized with the movement of the wet-lap that it makes a right angle cut. The roll conveyor carries the wet boards to a tipple which feeds the boards into any one of the eight openings of the dryer. These openings are selected automatically for uniformity in charging. Passage of the board through the 460′ gas fired Coe dryer takes from 1½ to 2½ hours.

FIRST TREATMENT of the dried mat is cutting to size which is accomplished on a Mereen-Johnson double trimmer. The mats pass through the first set of saws of the trimmer then move at right angles through the saws of the second pass. From this point the production line becomes more complex, as a variety of treatments are completed. Some of the boards are left in plank sizes while others are further cut to tile sizes. Some of the products are given a decorative coating for interior use, others are asphalt coated for structural use. All products are packaged before shipment by either wrapping or boxing.

IN ADDITION to asphalt coated roof insulation and sheathing, Flintkote manufactures the following decorative insulation board products: tile, perforated tile, plank and building board. The decorative products come in a variety of styles and colors. All Flintkote tile and plank products are made with a blind nailing joint and all have flame resistant finish [END]



COE DRYER is 440 feet long, has 8 openings. A tipple feeds board to selected opening automatically. Dryer time is 1½ to 2½ hours.



MEREEN-JOHNSON trim and cutoff saws. Panels first pass through 5 saws of trimmer right, move at right angles to 3 cutoffs at left.

Powell River Starts Work on Board Plant

Construction was started late in November on the new $2 million flakeboard plant being built by Powell River Co., Ltd. at Fraser River, B. C. The flakeboard plant is part of an $8 million expansion program that also includes a fine paper mill.

The flakeboard plant will utilize cedar, operating a process similar to that used at the Columbia Hardboard Co. plant in Everett, Wash. The new facilities are being engineered by Industrial Development Co., Inc., Tacoma, Wash., under the direction of Dale L. Schubert.

Laboratory Established To Test Hardwood Boards

A laboratory for fabricating and testing particle boards of hardwoods has been established by the department of forest products, Michigan State University in East Lansing, Mich. The lab will determine the properties of hardwood particle boards and check possibilities of developing markets for boards made of Michigan hardwoods, according to Dr. Aubrey Wylie, professor of forest products.

Laboratory facilities include a flaker, hammermill, flake drying chamber, glue mixer, automatic hot press and tester.

BENDING STRENGTH TEST is conducted on elm particle board by Dr. Otto Suchsland, left, and Dr. Aubrey Wylie, forest products researchers at Michigan State University.

Elm is being used in the preliminary particle board tests. It is one of the most abundant species in the lower peninsula of Michigan. Almost two-thirds of the 10 million acres of forests in lower Michigan are in hardwoods.

●

Standardized Methods For Testing Hardboard

The Hardboard Association has compiled standardized methods for testing physical and mechanical properties of hardwood and is making them available in a 23-page loose-leaf folder. The folder, called "Proposed Test Procedures for Hardboard," is available from Donald Linville, executive secretary, Hard Board Association, 205 West Wacker Drive, Chicago 6, Ill.

General information in the folder covers test specimens, sampling of the material, conditions of the material and reporting of tests. Physical properties reported include thickness, moisture content, specific gravity, water absorption and swelling. Mechanical properties covered are static bending, residual strength, tensile strength parallel to the surface and tensile strength perpendicular to the surface.

●

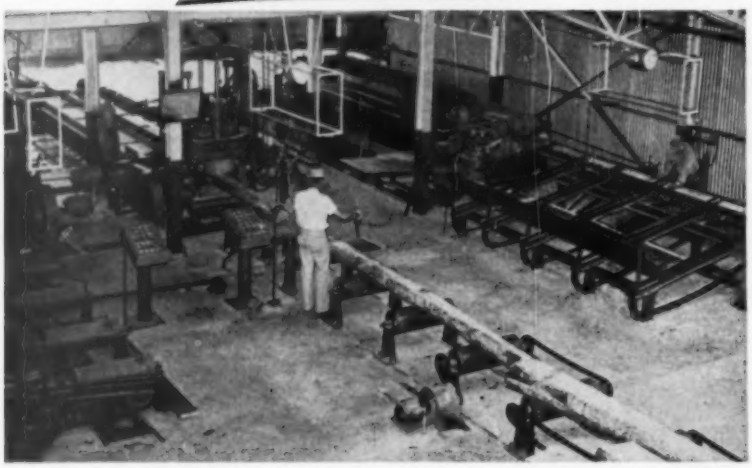
Board Industry Potential Predicted for Missouri

Missouri's hardwoods, now without too much market value, may prove to be the base for a board industry. This is the conclusion of Rolland Bradford, regional manager for Ebasco Services, Inc., Chicago, made in a talk before a forestry conference in Columbia, Mo.

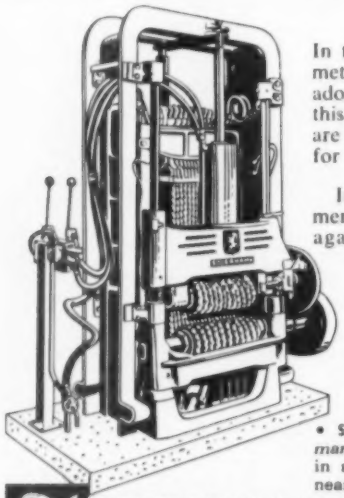
"Since most of your wood is short fiber, or mixed hardwoods, and some of not too good quality, at present the limitations may indicate that certain products are more practicable than others. One possible product is composition board or building board."

Bradford says a factor favoring board plants is that they can be economically built and operated in small sizes requiring not too much wood at

A *modern* mill



is a Soderhamn-Equipped mill



In today's highly-competitive market, all methods of cutting production costs must be adopted if profits are to be maintained. In this situation, worn-out, obsolete machines are costly — down-time and repairs soon pay for new equipment that you never get.

Investing today in new Soderhamn equipment is investing in future profits—insurance against business loss or actual failure. Soderhamn-equipped mills of today are the industry's leaders of tomorrow.

Call, write or wire to have your nearby Soderhamn man show you how to modernize your mill for higher production at lower cost.

• SODERHAMN GANG SAWS, *the fastest on the market*, are setting new profit-making records in mills all over the nation. Ask for name of nearest installation.

SODERHAMN MACHINE MANUFACTURING COMPANY

Soderhamn, Sweden — *Since 1864* — Talladega, Alabama

West Coast: 9442 S.W. Barbur Blvd., Portland, Oregon

one point; also, a board mill can be operated with a minimum of stream pollution.

Small pulp mills of the neutral semi-chemical types are another possibility to use the timber resource, Bradford says.

●

Gray Names Superintendent

Jack H. Wiggins has been named production superintendent for Gray Products Co., Waverly, Va. Wiggins was formerly associated with the Wynnewood particle board plant in Texas. Gray Products, headed by Elmon T. Gray, produces Graco flakecore and Graco particle board.

●

NLMA Picks Ingram For Presidency

Robert M. Ingram, 60, president and general manager of the E. C. Miller Cedar Lumber Co., Aberdeen, Wash., was elected president of the National Lumber Manufacturers Association to climax the 1958 annual meeting of NLMA directors and committees at in Shoreham Hotel in Washington, D.C.

Ingram succeeds N. Floyd McGowin, president of the W. T. Smith Lumber Co., Chapman, Ala. McGowin was elected NLMA board chairman succeeding Walter Leuthold, Deer Park, Wash., lumberman, who becomes chairman of NLMA's Policy Committee.

Thomas J. McHugh, president of the Atlantic Lumber Co., Boston, was elected first vice president of NLMA.

Elected regional vice presidents of the association were:

A. B. Hood, president of the Western Pine Association, Portland, Ore., and vice president and general manager of the Ralph L. Smith Lumber Co., Anderson, Calif.

Jack Fairhurst, president of the West Coast Lumbermen's Association, Portland, Ore., and vice president and general manager of the Fairhurst Lumber Co., San Rafael, Calif.

M. W. Smith, Jr., president of the Southern Pine Association, New Orleans, and the M. W. Smith Lumber Co., Jackson, Ala.

Edwin L. Douglass, president of Southern Hardwood Producers, Inc., Memphis, Tenn., and the Augusta Hardwood Co., Augusta, Ga.

●

• Lex Taylor has been appointed sales manager of the wholesale division, serving all areas except California, for Clay Brown & Co., Portland, Ore. A veteran of 21 years in the lumber business, Taylor most recently was manager of the western wholesale division of Shepard & Morse Lumber.

Formosa Lumber Products Find B. C. Market

Formosa is shipping plywood, lumber and finished doors to British Columbia as a result of a contract placed by B. C. Hardwood & Millwork, Ltd., Vancouver, headed by J. W. Riedl, general manager. Mr. Riedl, recently returned from the Far East, says that his company will buy about 25% of its hardwood and door stock from Formosa. Labor and other production costs in Formosa are so low, according to Mr. Riedl, that the doors when landed in Canada are about 20% cheaper than those made locally.

Bock Named President Of Hardwood Group

New president of the National Hardwood Lumber Association is Bernard Bock, Eagle Lumber Co., Montreal, Quebec, Canada, who was elected at the 61st annual convention of the association. He succeeds H. A. Hanlon, Odessa, N. Y., who becomes a permanent member of the executive committee.

Franklin T. Griffin, Chicago, and Mark Townsend, Suttgart, Ark., were re-elected vice-presidents and James P. Hamer, Kneova, W. Va., was elected third vice-president.

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Armstrong No. 4 automatic, precision band saw sharpener.

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Armstrong — SAW SHARPENERS — TOOLS

Founded in 1902 by E. P. Armstrong

Lumber Prices

Douglas Fir

1x8	Utility S4S KD	$ 55- 58.00
2x4	Construction Dimension S4S KD	81- 83.00
1x4	C&Btr VG Flooring KD	170-173.00
1x6	C&Btr Drop Siding KD	150-155.00
1x6	C&Btr S4S KD	170-175.00
1x8	C&Btr S4S KD	165-170.00
1x10	C&Btr S4S KD	170-175.00
1x12	C&Btr S4S KD	215-220.00

Construction Timbers and Plank

3x12	6-20′	$ 82- 85.00
3x12	22-24′	87- 90.00
3x12	26-32′	95-100.00
4x4	8-20′	83- 86.00
4x4	22-24′	88- 91.00
4x4	26-32′	96-101.00
6x6	8-20′	80- 83.00
6x6	22-30′	87- 90.00
6x6	32-40′	102-105.00
8x8	8-20′	77- 80.00
8x8	22-30′	82- 85.00
8x8	32-40′	97-100.00
6x10, 8x10, 10x10, 12x12	8-20′	78- 81.00
6x10, 8x10, 10x10, 12x12	22-30′	83- 86.00
6x10, 8x10, 10x10, 12x12	32-40′	98-101.00

Construction Dimension (Green)

2x4	6-24′	$ 68- 70.00
2x6	6-24′	69- 71.00
2x8	6-24′	68- 70.00
2x12	6-20′	69- 71.00

Standard & Btr. Boards (Green)

1x4	6-20′	$ 55- 58.00
1x8	6-20′	65- 68.00
1x12	6-20′	63- 66.00

Douglas Fir Plywood

¼-inch AD SOIS $76.00

Southern Pine (KD Stock)

Vertical Grain Flooring

	B	C	D
1x4	$210.00	190.00	153.00

Flat Grain Flooring

1x4	150.00	135.00	125.00
1x6	180.00	160.00	123.00

Drop Siding

1x6 No. 106	185.00	167.00	130.00
No. 116	185.00	167.00	130.00

Boards and Shiplap

	1x6	1x8	1x10	1x12
No. 1	$120.00	$127.00	$127.00	$175.00
No. 2	82.00	87.00	85.00	98.00
No. 3	72.00	81.00	78.00	79.00

No. 1 Dimension

	12	14	16	18	20
2x4	100.00	100.00	100.00	115.00	115.00
2x6	96.00	98.00	96.00	110.00	110.00
2x8	96.00	94.00	93.00	110.00	110.00
2x10	103.00	101.00	103.00	120.00	120.00
2x12	115.00	105.00	107.00	120.00	125.00

No. 2 Dimension

	12	14	16	18	20
2x4	91.00	92.00	91.00	105.00	105.00
2x6	89.00	91.00	88.00	100.00	100.00
2x8	87.00	87.00	84.00	98.00	100.00
2x10	90.00	92.00	90.00	104.00	104.00
2x12	96.00	96.00	92.00	108.00	113.00

Western Pine

Ponderosa Pine

Selects S2 or 4S	4/4 RW	5/4 RW	6/4 RW
C Select RL	$260.57	$264.11	$256.07
D Select RL	162.13	183.05	174.57
Shop S2S	**No. 1**	**No. 2**	
5/4	$129.05	$ 95.55	
6/4	128.15	95.67	
Commons S2 or 4S	**No 2**	**No. 3**	
1x8″ RL	$ 98.68	$ 71.21	
1x12″ RL	112.19	72.82	
4/4 No. 4 Common S2 or 4S			$ 56.70

Idaho White Pine

Selects S2 or 4S	4/4 RW	6/4 RW	
Choice (C) RL	$262.11	$293.00	
Quality (D) RL	170.37	254.50	
Commons S2 or 4S	**Col. (1)**	**Ster. (2)**	**Std. (3)**
1x8″ RL		$132.98	$ 79.84
1x12″ RL		159.48	87.86
4/4 Utility (4) S2 or 4S RW&L			$ 60.75

Sugar Pine

Selects S2 or 4S	4/4 RW	5/4 RW	6/4 RW
No. 1 & 2 Clear RL	$284.88	$282.78	$281.53
C Select RL	278.98	275.55	270.79
D Select RL	173.50	189.99	180.21
Shop S2S	**No. 1**	**No. 2**	**No. 3**
5/4	$130.05	$ 96.28	$ 66.81
6/4	132.10	97.63	66.58
8/4	148.56	108.52	67.60

Larch-Douglas Fir

4/4 No. 3 Common S2 or 4S	$ 71.00
2x4 No. 1 Dimension RW&L	80.29
2x4 No. 2&Btr. Dimension RW&L	70.12

●

Pallet Makers to Meet

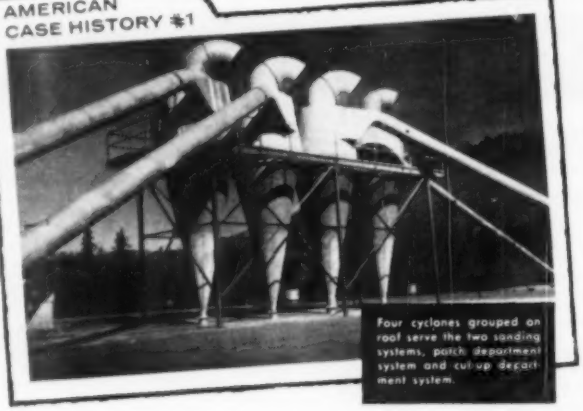
The 12th semi-annual meeting of the National Wooden Pallet Manufacturers Association will be held February 1-3 at the Hollywood Beach Hotel in Hollywood, Fla. The group expects to finalize a new 4-point pallet program which establishes four new pallet grades, offers a specification analyzation service, sets up a pre-award survey on pallet contracts.

●

New Equipment Due

The Vaughn, Ore., branch of the Long-Bell division of International Paper Co., is adding new equipment for better log utilization. Included are a pony rig, edger, trimmer and resaw and two new dry kilns.

AMERICAN CASE HISTORY #1



Four cyclones grouped on roof serve the two sanding systems, patch department system and cut-up department system.

Five American systems develop maximum waste removal efficiency for LONG BELL's plywood plant at Vaughn, Oregon*

1. Separate systems serve two 8-drum sanders and deliver six tons of sander dust per shift to a surge bin 1,000 feet from the sanders. A special double-screw bottom meters the sander dust into a blower system that delivers the dust directly to the combustion chamber.

2. Separate systems serve the patch and cut-up department and deliver waste to a Rader high-pressure system that transports it to fuel storage.

3. Separate American system conveys waste from the log deck cutting saw to the Rader high-pressure conveying system for delivery to fuel storage.

4. Special surge bin receives chips from the windswept chipper. Chips are metered into a Rader high-pressure system for delivery to chip cars.

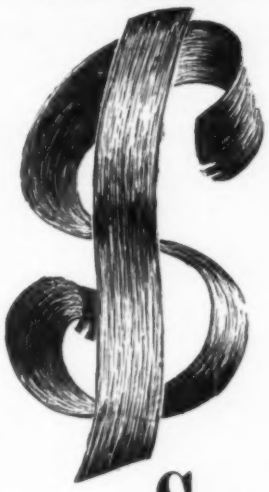
5. Exhaust systems above two Coe dryers and above two hot presses remove smoke and fumes from the building.

*International Paper Company, Long-Bell Division.

AMERICAN MEANS EFFICIENCY

AMERICAN SHEET METAL WORKS, Inc.
Manufacturers of Blowers
920 NE Glisan Portland, Oregon BE 2-0111

DOLLAR SHAVINGS



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From raw steel to final sharpening, we build in greater shock resistance and longer-lasting, sharper cutting edges . . . to give you more production at less cost.

Talk to us today about your requirements.

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EUGENE, ORE.

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Continuous Production, Greater Economy with a

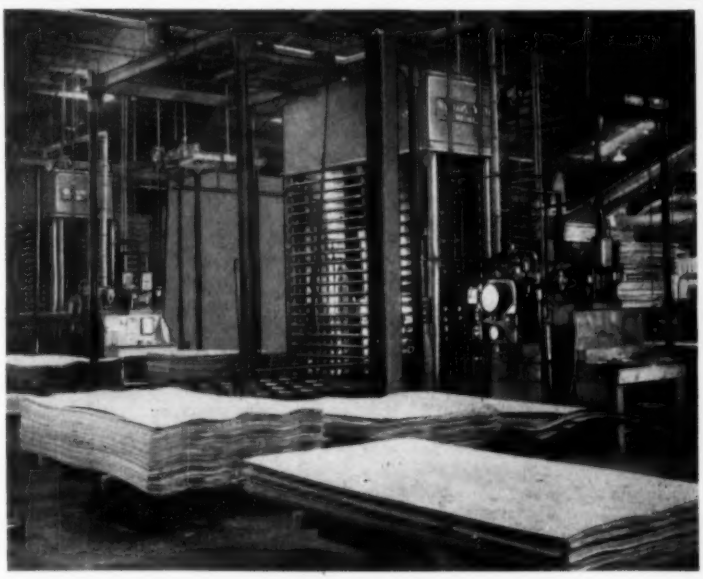
WILLIAMS-WHITE HOT PLATE PRESS

If you are considering the purchase of a hydraulic press for producing plywood, hardboard or allied products on either an experimental or production basis, the WILLIAMS-WHITE Hydraulic Press should be included in your planning.

Low initial cost, long and trouble-free life, and complete customer satisfaction and confidence displayed by over 280 laboratory and production installations, truly make the WILLIAMS-WHITE Hydraulic Press the hallmark of the industry.

A typical example of repeat orders is the installation of two 572-ton, 106" x 54" hot plate presses, illustrated, in the Merlin, Ore., plant of Bate Lumber Company.

Why not discuss your requirements with us before you buy?



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PRESSES • BULLDOZERS • BENDERS • PUNCHES • SHEARS

All New — All Purpose • Predetermined Remote Control • GREATER ACCURACY • FEWER WIRES • FEWER CIRCUITS • LESS PARTS • LOWER COST

Sel-Set SELECT-O-MATIC ELECTRONIC SETWORKS

Select-O-Matics are available in models and sizes for all types of mills, and in addition all previous standard electric models are, of course, still available.

Sel-Set will furnish all of the equipment necessary for the complete remote control conversion of any machine.

WRITE, WIRE OR PHONE FOR DETAILED INFORMATION AND PRICE QUOTATIONS:

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290 Mayer Lane, P. O. Box 1035, Salem, Oregon

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LA SALLE SECURITIES CO., INVESTMENT SECURITIES, 208 LA SALLE STREET, CHICAGO, ILL.

NOMINAL QUOTATIONS • DECEMBER 5, 1958

STOCKS	Paid 1957	This Month Bid	This Month Ask	Last Month Bid	Last Month Ask
Ambassador Oil Com.	$	3¼	3¾	3	4
American Forest Products Com.	1.00&S	26½	28	24½	26½
Anderson Tully Co., Capt. Stk.	40.00	250	OW	250	OW
Atlas Plywood, Com.	.15	9¼	C	8⅞	C
Atlas Plywood, $1.25 Pfd.	1.25	16	17½	15¾	17
Biles-Coleman Lbr. Co. Com.	*	17	OW	17	OW
Boise Cascade Corp. Com.	.50	29	31	27¼	29¼
Booth-Kelly Lumber Co. Com.	30.00	685	OW	650	OW
George E. Breece Lbr. Units	.05	2½	OW	2½	OW
British Columbia Forest Prod., Com.	.50	13¾	C	13¾	C
Brooks-Scanlon, Inc. "A"	.95	23	OW	22	24
Brooks-Scanlon, Inc. "B"	.95	23	OW	22	24
Calaveras Land & Timber Co. Com.	2.00	22	OW	21 Ex. Div.	OW
Calcasieu Paper Co., Com.	.50	25	OW	25	OW
Cascades Plywood Co. Com.	1.25	27½	29	27¾	29½
Central Coal & Coke Co. Com.	1.00	27½	29½	27½	29½
Cherry River Boom & Lbr. Com.	2.00	32	37	32	OW
Chicago Mill & Lbr. Co. Com.	1.25	22¾	24¾	23¼	25
Cloquet Lumber Co. Com.	*	1	OW	1	OW
Consolidated Naval Stores, Capt. Stk.	22.00	710	OW	710	OW
Container Corp., Com.	1.00	29	C	28⅝	C
Container Corp. 4% Pfd.	4.00	91	C	88	C
Crossett Company, Class "A"	.60	30½	32	30½	32
Crossett Company, Class "B"	.60	30½	32	30½	32
Crown Zellerbach, Com.	1.80	57¾	C	54¾	C
Crown Zellerbach, $4.20 Pfd.	4.20	93½	C	93¾	C
Curtis Companies Com.	.10	9¼	10¼	8¼	9¼
Dierks Forests, Inc.	5.00	125	OW	125	OW
Evans Products, Com.	1.45	18¼	C	17½	C
Fordyce Lumber Co., Capt. Stk.	1.25	40	55	40½	OW
General Plywood Com.	.....	21⅝	C	16⅞	C
Georgia-Pacific Co., Com.	1.00	46¼	C	45½	C
Harbor Plywood, Com.	.45	18⅞	C	19⅞	C
Edward Hines Lumber Co., Com.	2.50	38½	40½	37½	39½
Holmes Eureka Lumber Com.	.10	3	4	3	4
Insular Lumber Co. Com.	1.25	11½	13½	12	14
International Paper, Com.	3.00&S	115¼	C	117¼	C
International Paper, $4 Pfd.	4.00	90½	C	92	C
Keyes Fibre Co. Com.	1.20	23¼	24¾	22¼	24¼ Ex. Div.
Kirby Lumber Corp. Com.	1.00	49½	52	51½	54
Longview Fibre Co. Com.	2.80	82	OW	81	84
Louisiana Central Oil & Gas Co. Com.	12.00	50	OW	50	OW
Louisiana Long Leaf Lumber Co. Com.	20.00	150	OW	70	OW
Louisiana Sawmill Co. Com.	.....	½	OW	½	OW
MacMillan & Bloedel, "B" Com.	1.00	36¼	C	35¼	C
McCloud River Lumber Co. Com.	4.00	73½	76½	72	75
McCloud River Railroad Co., Com.	1.00	32	OW	32	OW
Meadow River Lumber Co. Com.	*	200	OW	200	OW
Medford Corp. Com.	7.00	180	OW	170	OW
Mississippi Land., Capt. Stk.	2.40	12	OW	12	OW
Northwest Paper Co. Com.	.80	29½	32	28½	OW
O. & N. Lumber Co., Capt. Stk.	3.00	42	OW	42	OW
Olin Oil & Gas Co. Com.	.....	15¼	17¼	15½	17½
Ozan Lumber Co. Com.	4.00	90	OW	90	OW
Pacific Lumber Co., Capt. Stk.	10.00	240	OW	225	OW
Pickering Lumber Co. Com.	.55	9½	10½	9⅜	10⅜
Pine Tree Manufacturing Co.	1.26	50	OW	50	OW
Pope & Talbot, Inc. Com.	1.25	24½	26½	24¼	26
Pope & Talbot, Inc. Pfd.	.30	5	5¾	4¾	5½
Potlatch Forests, Com.	1.00	57	59	56	58
Powell River Co. Ltd. Com.	1.50	39	42	38¾	40
Puget Sound Pulp & Tbr. Co., Com.	.80	18¾	C	17⅝	C
Richmond Cedar Works Mfg. Com.	.....	½	1	⅝	1⅛
Richmond Cedar Works Com.	.....	1	¾	1⅛	⅞
Ritter, W. M., Lumber Co., Com.	2.00	36	40	35	40
Rock Island Millwork Co., Com.	*	25	OW	25	OW
Roddis Plywood Co. Com	.45 &S	10¾	11¾	12½	13½
St. Regis Paper, Com.	1.55	44¾	C	43¼	C
Southern Minerals Corp. Com.	.....	4¼	5¼	4¼	5¼
Southwest Lumber Mills, Com.	4% Stk.	8	9	9¼	10¼
Tremont Lumber Com.	2.00	65	OW	65	OW
U. S. Plywood, Com.	2.00	41⅝	C	38	C
Union Lumber Co. Com.	1.25	49	...	48½	51½
United States Lumber Com.	.35	3⅞	4⅞	3½	4½
Upson Company Com.	1.20	11¼	12¼	11	12
Weyerhaeuser Timber	1.00	44½	46	43⅞	44⅞
Winton Lumber Co. Com.	.92	15	OW	15	OW
Wood Conversion Co. Com.	.40	17⅜	19	16½	18
Wooduse, Inc., Com.	.....	½	1	½	1
BONDS					
Georgia-Pacific Corp. Subordinated Deb., 5% due 1976	.....	85	90	84	89

*Information not available BW—Bids Wanted S—Stock
OW—Offerings Wanted C—Last sale on Exchange where listed or bid.

THE ABOVE INFORMATION, WHILE NOT GUARANTEED, IS OBTAINED FROM SOURCES WE BELIEVE TO BE RELIABLE

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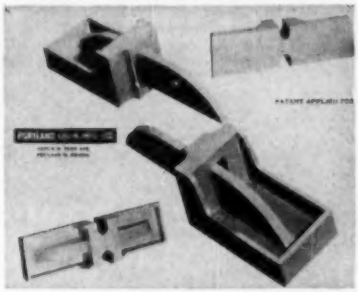


Industry Meetings

JANUARY

British Columbia Truck Loggers Association, January 14-15, Vancouver, B. C.
California Forest Protection Association, January 16, San Francisco, Calif.
Fire Control Course, Canadian Forestry Association, Pacific National Exposition, January 19-23, Vancouver, B. C.
National Plywood Distributors Association, Southern regional meeting, January 23, Roosevelt Hotel, New Orleans, La.

FEBRUARY

National Wooden Pallet Manufacturers, February 1-3, Hollywood Beach Hotel, Hollywood, Fla.
Governor's Industrial Safety Conference (California), February 5-6, Biltmore Hotel, Los Angeles, Calif.
Sierra-Cascade Logging Conference, February 12-14, Redding and Anderson, Calif.
"Second Century of Forestry," Oregon Centennial, February 20-21, School of Forestry, Oregon State College, Corvallis, Ore.
Oregon Logging Conference, February 26-28, Eugene, Ore.

MARCH

Redwood Region Logging Conference, March 12-14, Flamingo Hotel, Santa Rosa, Calif.
American Institute of Timber Construction, March 17-20, Boca Raton, Fla.
Intermountain Logging Conference, March 22-25, Spokane Coliseum, Spokane, Wash.
Motor Vehicle Maintenance Conference, March 23-25, Seattle, Wash.

APRIL

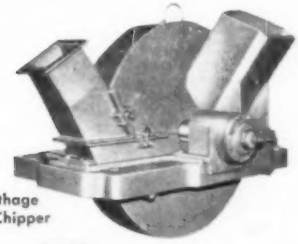
Northwest Hardwood Association, semi-annual, April 3, Seattle, Wash.
Southern Pine Association, annual meeting, April 13-15, New Orleans, La.
Forest Products Safety Conference, April 23-25, Multnomah Hotel, Portland, Ore.

MAY

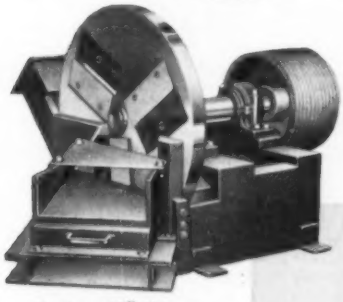
Western Kiln Clubs, May 7-8, Eureka, Calif.

JUNE

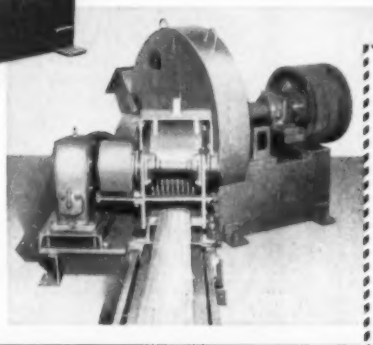
Hardboard Association, semi-annual, June 4-5, Olympic Hotel, Seattle, Wash.
National Plywood Distributors Association, June 14-16, Atlantic City, N. J.
Southern Sash & Door Jobbers Association, June 15-16, Hotel Peabody, Memphis, Tenn.
Forest Products Research Society, annual meeting, June 28-July 3, San Francisco, Calif.



Carthage 47" Chipper



Carthage 39" Chipper Horizontal Feed



Carthage 39" Chipper Power Feed

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Customer Wants Prompt Installation of Kiln

A Moore dry kiln was installed at the North Plains Lumber Co. remanufacturing plant in North Plains, Ore., in a step to enable the operation to provide the service and lumber of the specifications required by customers, John Hallinan, secretary and co-owner of the company explains.

"We feel that we must be efficient and also maintain rigid requirements for drying and manufacturing if we are to compete in today's markets," Hanninan says.

The Moore units have eight 72-inch diameter reversible fans, driven by a single 30-hp motor to provide a high rate of air circulation which is automatically reversed at periodic intervals to obtain uniform drying conditions. Temperatures and humidities are closely controlled automatically during the entire drying cycle to preset schedules for the items being dried.

NEW DRY KILN at North Plains Lumber Co., North Plains, Ore., is Moore double-track, 66-foot cross circulation unit with a holding capacity of 100,000 board feet.

Heating equipment is for low pressure steam to give uniform control of temperatures and humidities. Air is re-heated after only nine feet of travel across lumber being dried. An automatically oil-fired boiler, sized to provide for an additional kiln, supplies steam to the kiln by operating at less than 15 pounds pressure and burning a heavy weight oil.

Hallinan says: "We wanted a dry kiln that would enable us to be flexible to dry high grade fir and cedar items, as well as capacity for our volume items of fir and hemlock dimension."

•

Wholesale Firm Set At Albuquerque

Thunderbird Lumber Corp., a lumber wholesaler with head offices in Albuquerque, N. Mex., has been established, according to Robert E. Gallagher, president of the firm.

The company will offer a complete selection of west coast products.

Other members of the firm include Ted Schifani, a veteran in lumber circles, and George McGill who previously operated his own company in Oregon, both as vice-presidents.

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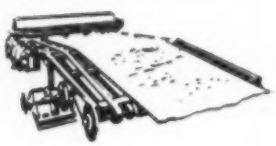

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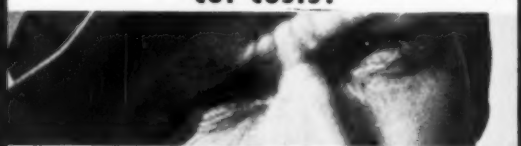

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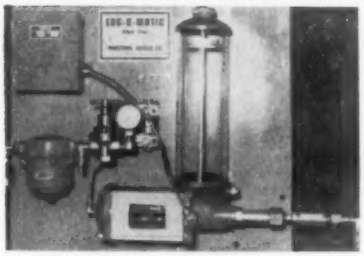


Sprayer Edger Oiler Works Automatically

Industrial Service Co., Sacramento, Calif., has developed an edger oiler which works automatically and needs no attention other than to replace the oil container or fill the oil reservoir.

Called the Edg-O-Matic, the unit shoots a fine air-oil spray onto the length of the arbor at one or two-minute intervals. The amount of oil used is small, but is so light and fine that it sticks to the rotating arbor. Gums and sawdust do not get a chance to accumulate, eliminating the problem of sticky saws. Oil consumption is small: a 60-inch edger will use about 13 gallons a month, single shift; a 96-inch edger will use about 19 gallons on the same basis.

•

Hyster Adds Straddle In 30,000-Pound Class

A number of design changes for more general use in horizontal transport of bulky loads are incorporated in Hyster Co.'s new 30,000-lb. capacity straddle truck. Reserve power for handling capacity loads with speed and efficiency is supplied by a 164-hp Chrysler V8 engine.

A 4-speed, full reversing transmission offers a wide range of speeds for varying travel conditions. In high, the truck travels easily at highway speeds. In low, it can climb an 18% grade fully loaded.

The unit also has power steering, 4-wheel power brakes and all weather cab. Each wheel is independently suspended on dual coil springs with heavy duty shock absorbers mounted between the wheel forks and the main frame.

Piston Deposits Cut With New Lubricant

Standard Oil Co. of California, has announced a new lubricant, RPM Outboard Motor oil, a detergent-action oil which the company says has reduced piston deposits more than 50% in a new 35-hp outboard engine after 100 hours of slow speed operation. The oil was developed for all 2-cycle engines.

Standard also says the new oil increases spark-plug life up to 100%.

RPM Outboard Motor oil comes in a self-measuring, easy-pour quart can.

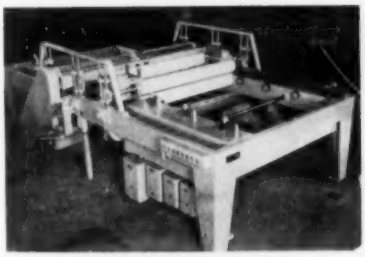
•

Variable Speed Drive For Agitators, Mixers

U. S. Electrical Motors, Inc., Los Angeles, Calif., has developed a packaged variable speed drive especially for agitator and mixer duty. It combines in a single integrated unit a high speed AC motor, a mechanical type variable speed transmission and double reduction gearing.

The unit is simple in construction with no electronic or DC components and it connects to any 3-phase AC power source.

Several different methods of speed control are available: a handwheel on the unit, remote mechanical, remote electrical, or Varitrol automatic control. Power ranges from 3 to 30 horsepower. Rpm range is 30 to 380.



Panel Finishing Units Added by Kvalheim

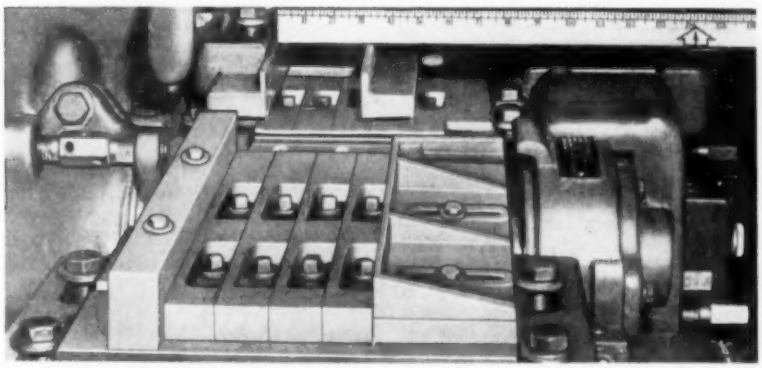
Two units for finishing plywood and other board materials have been announced by Kvalheim Machinery Co., Petaluma, Calif. The Model 1020 pictured above can shape the edges of the panels and saw, groove or dado the face in one pass. The other, the Model 550, is for double edge shaping or edging.

Model 1020 has six full length rubber rolls, three on top and three underneath to feed material. The top rolls hold material flat and give it positive feed. There are also two steel bottom rolls to support material.

The traverse shaft on the 1020 is supported by two ball bearing pillow blocks. Cutters or saws may be placed on it from either end are held in position anywhere along the shaft by keyed collars with set screw tightening. The shaft can be raised or lowered for cut adjustment.

The 550 has either two or four rolls, depending on the material, and no traverse shaft.

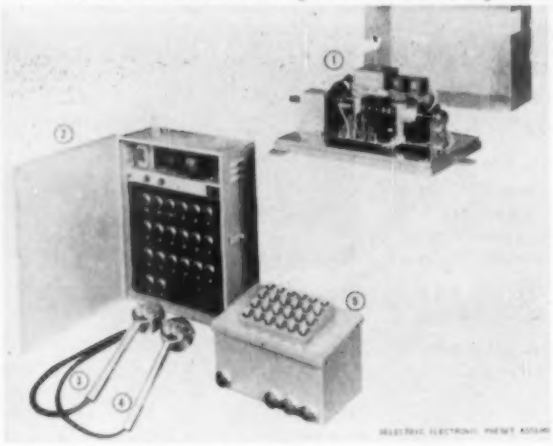
Finger Tip Accessibility in New Woods Moulder



All vital points of the new S. A. Woods Machine 137 MT moulder are within easy reach of the operator. For instance, from the operator to rear stock guide is less than 15 inches, and the front or operating side is streamlined to allow the operator entire working bed accessibility without any obstruction.

The operator has complete accessibility to the top head in less than 10 seconds. He can remove it from the machine in less than a minute. The top head chip breaker with adjustable sectional shoes and equipped with counter balanced springs is quickly swung up and out of position giving full accessibility to the top head. The outboard bearing is dropped out of the way, spindle lock nuts removed and top head easily pulled off its tapered spindle.

Electronic Control System Added by Mill Equipment

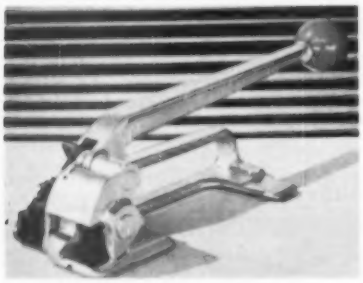


CONTROL SYSTEM includes a brain unit (1) that mounts on the carriage, a control center (2) near the sawbox, sawyer's setworks control (3) which mounts on the feed lever, sawyer's dog control (4) which mounts on the nigger lever and push button selector station (5) which mounts on forward bulkhead in front of sawyer.

An electronic unit mounted on the carriage transforms the finger tip operating commands of the sawyer into carriage performance with instantaneous speed in the new electronic control system developed by Mill Equipment, Inc., Seattle, Wash., for its sawyer-operated setworks systems in the 2 to 30-hp range.

A compact control center mounts in the sawbox making possible an infinite variation in the length of sets. In addition, adjustment of settings can be made on the control panel without touching the carriage.

In the electronic system of control, potentiometers take the place of switches and add qualities of longer life and greater operating dependability, Mill Equipment points out. With the master potentiometer, it is possible in one adjustment to alter all settings to exactly the same degree in correcting accuracy following saw changes or adjustment of the carriage knees.



New Stanley Tightener For Steel Strapping

The new Stanley "O" tightener requires fewer strokes, can apply steel strapping to packages of varying sizes and shapes, and can operate from any position, according to its manufacturer, The Stanley Steel Strapping division of the Stanley Works, New Britain, Conn.

Applying seals to the rear of the tensioning wheel cuts overlap to minimum required for maximum joint security. The tightening action is more positive because there are two holding pawls instead of one on the tensioning wheel, and the tool is removed quickly by simply returning the tightening lever to its down position and sliding the tool from the strapping. Two models are available: "OL" for light duty and "OM" for medium duty.

New V-Drive Line Announced by Dodge

Smaller and lighter sheaves and V-belts of high capacity at less cost are features of the new line of V-belt drives announced by Dodge Manufacturing Corp., Mishawaka, Ind.

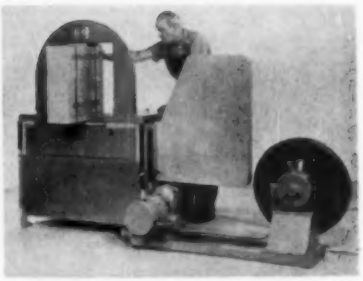
Named Dyna-V, the new line covers the complete range of horsepower capacities available in conventional drives. With the new line, the majority of industrial drives can be handled with belts only 3/8-inch wide, and sheaves that are greatly reduced in both width and outside diameter.

The units are offered in two standard groove sizes. Besides the 3/8-inch (nominal top width) size, known as 3V, the company is manufacturing a 5V, or 5/8-inch size for higher horsepower. Sheaves in the 3V series, from 1 to 10 grooves, are designed for drives ranging from 1 to 50 horsepower. The 5V series will include sheaves to take from 3 to 10 of the 5/8-inch belts, will handle drives up to 200 horsepower.

●

Chryslers Added

N C Machinery Co., Port Angeles, Wash., has added Chrysler marine and industrial engines, according to O. A. Timberlake, manager. N C will carry a stock of parts.



Steel Strapping Machine For Cartons, Cases

A. J. Gerrard & Co., Melrose Park, Ill., has announced a Model 2700 fully automatic flat steel strapping machine for closure of corrugated cartons, fiber cartons and wooden cases.

The unit automatically compensates tension for package size variation, handles package sizes at a minimum 4 inches high, 8 inches wide to a maximum of 22 inches high and 20 inches wide, or 15 inches high and 26 inches wide.

Two sizes are available: 3/4 or 1/2-inch, using either light or medium gauge flat steel strapping. Seals are formed in the machine from the coil, with 7500 ties possible without reloading.

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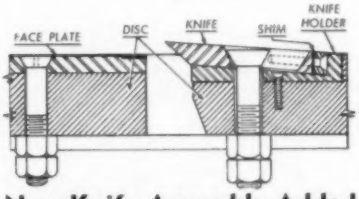


New Knife Assembly Added To Carthage Chippers

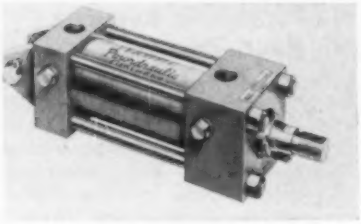
The Carthage knife assembly introduced in mid-1958 in the firm's 47-inch slab chipper is now being added to the 39-inch slab chipper. With this installation, chip lengths can easily be changed by changing the knife holders. There is no field adjustment. The knives can be shimmed in the shop and are the correct width when placed in the disc.

The new knife assemblies are used in conjunction with replaceable alloy steel wear plates, bolted to the disc. The chipper units are available with or without power feed.

●

New Alabama Quarters

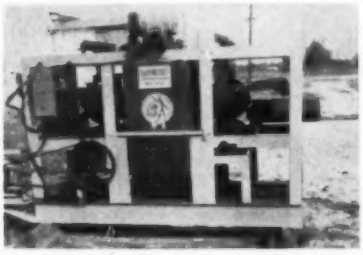
Hanchett Manufacturing Co., Big Rapids, Mich., and Portland, Ore., will build a new branch office, factory and warehouse in Birmingham, Ala. Complete stock of Hanchett products will be maintained. The new facilities will offer complete service facilities.



Hanna Cylinder Features Pressure Tightening Seal

The new Powrdraulic hydraulic cylinder line by Hanna Engineering Works, Chicago, Ill., has a pressure tightening tube seal. The "O" ring seal is located on the outside diameter of the tube and is fully confined between the tube and cylinder head. Because the seal is on the tube O.D. minute expansion of the tube under pressure squeezes the "O" ring, increasing tightness of the seal.

Powrdraulic cylinders are rated at 2000 to 3000 psi non-shock and have a wide safety margin, Hanna says. Bore sizes range from 1½ through 8 inches. Practically every application can be met through 13 basic models and a choice of rod sizes.



1- to 6-inch Logs Handled by Barker

The "Trebarker" developed by Fulghum Industries, Inc., Wadley, Ga., is available in three models to take trees from 1 to 6 inches in diameter. The manufacturer says the unit has no rubber bands, no air cylinders, no hydraulics, no springs. The rosser head machine will debark 245 linear feet a minute, or three gondola cars of trees a day.

Typical application is on pre-commercial thinning waste, pulpwood or sawmill trees. The machine adjusts to knotty, crooked, misshaped trees.

Hoe Increases Units In Circular Saw Line

R. Hoe & Co., Inc., has added advance chrome finish and hard tip saw blades to its line of 5⅞ to 16-inch circular blades.

The deep hardened, hard-tip blades, in sizes from 5⅞ to 16 inches, are engineered to stay sharp five to seven times longer than other saws, Hoe says. The hard-tip line includes combination, cross-cut and mitre, rip and planer saw blades. The hard chrome covers the same sizes and includes rip, cut-off, hollow ground planer, flat ground combination, plywood, chisel tooth combination and dado sets.

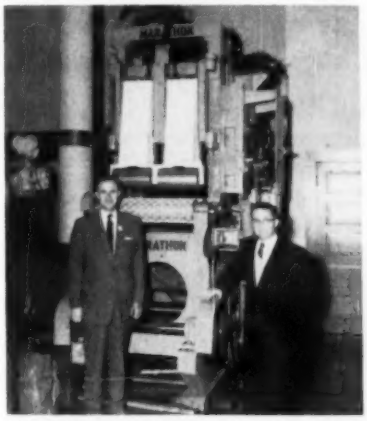
The new Hoe line also includes "Easy Eight" special carbide tipped saws with hard chrome finish, ranging in diameter from 5⅞ to 12 inches and available with round, square and diamond center holes.

New 4-Wheel-Drive Payloader by Hough

A "low profile" front shroud which gives the operator improved visibility and easier, faster and safer operation is a feature of the new H-90 Payloader from Frank G. Hough Co., Libertyville, Ill. The rubber-tired, 4-wheel-drive unit has a load capacity of 9000 pounds at average travel speeds. Both gas and diesel power units are offered.

Buckets to handle material of various weights within the recommended carry capacity of 9000 pounds are available in sizes from 1½ to 5 cubic yards S.A.E. rated bucket sizes.

The H-90 has a breakout force of 21,000 pounds and bucket tipback of 44 degrees at ground level. The H-90 replaces the former HO model.



MARATHON GANG SAW was shown off at the recent Pacific Logging Congress in Portland, Ore. Pictured with the unit are Barney Comerford, left, vice-president, and Gordon Hauck, secretary of Portland Machinery Co., Portland, Ore., national U. S. distributors for Marathon. The unit shown is the No. 400 which is a 14x28-inch unit with divided rolls.

PERSONALITIES

DR. JACK DICKSTEIN, research chemist, has joined the forest products section of the Borden Chemical Co.'s central research laboratory in Philadelphia, Pa., where he will work on the company's wood adhesives.

A. E. RUSSERT J. R. SANSOM

Two promotions have been announced by Acme Steel Co. A. E. RUSSERT, with Acme since 1953 and most recently assistant manager of the Strip Steel Sales division, becomes sales manager of the division. J. R. SANSOM, who joined Acme in 1956 as manager of distributor sales, becomes sales manager of the fabricated materials division. He was most recently assistant manager of the slotted angle sales division.

JOHN W. PETERSON is new field engineer at Norton Company's Philadelphia, Pa., district office. He has been with Norton since 1954.

DICK LABUS has joined Atkin saw division of Borg-Warner as sales representative for eastern Pennsylvania, southern New Jersey, Delaware, Maryland and Washington, D. C. He will headquarter in Phila delphia. Labus was formerly sales representative for Disston division of H. K. Porter Co.

DICK LABUS R. K. BATY

RAYMOND K. BATY has joined the David Brown, Inc., organization as engineering sales representative for the Gear Division in charge of the Pacific Northwest division. He will headquarters in Portland, Oregon. David Brown manufactures and distributes Radicon speed reducers, Varicon variable speed reducers and other industrial gearing.

54-Inch Wide Material Handled by Surfacer

The new S-480 single surfacer developed by Baxter D. Whitney & Son, Inc., Greensboro, N. C., planes stock from 1/16 inch through 8 inches thick and up to 54 inches wide. The unit is built in sizes of 24, 36, 46, 48, 50 and 54 inches.

Feedworks on the units have variable speed feed, are driven by a single feed motor, giving feeds of 30 to 90 feet per minute or 20 to 60 feet per minute. The lower or bed rolls of the planer may be instantaneously adjusted by moving a conveniently located lever from 0 to .050 inches.

●

Southern Distributor

Taylor Machine Works, Louisville, Miss., has been named southern distributor for the Hosmer L-20 log barker, a unit designed for small and medium-sized sawmills. The unit is produced by Hosmer Machine & Lumber Co., Contoocook, N. H.

New Adhesive Requires No Heat, Pressure

A new elastomeric base adhesive for laminating materials needs no heat or pressure, according to its producer, Adhesives, Coatings & Sealers division, Minnesota Mining & Manufacturing Co., Detroit, Mich. It will bond plastics, steel, aluminum and wood.

The manufacturer says the adhesive has good water resistance and will retain strength and adhesion at temperatures over 200 degrees Fahrenheit. Shear strengths are in the range of 500 psi between high pressure laminates and steel, aluminum or wood. Wood to wood shear strength is up to 300 psi after aging five days at room temperature.

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Closing Date: February Issue — January 5th

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Electric Power Equipment Ltd., N. Vancouver, B. C.

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The Norton Co., Worcester, Mass.; Los Angeles
Simonds Abrasive Co., Philadelphia, Pa.

ADHESIVES
American-Marietta Co., Seattle, Portland, New Westminster, B. C.
Borden Co., Chemical Division, New York City, Seattle
Monsanto Chemical Co., St. Louis, Mo.; Springfield, Mass.; Seattle, Wash.; Santa Clara, Cal.
Quaker Oats Co., Chemical Division, Chicago, Ill.
Reichhold Chemicals, Inc., White Plains, N. Y.; Seattle; San Francisco; Port Moody, B. C.

AIR COMPRESSORS—AIR TOOLS
Gardner-Denver Co., Quincy, Ill.; Seattle; Portland; San Francisco; Denver, Colo.; Dallas, Texas
Portland Machinery Co., Portland, Ore.

AIR CYLINDERS & VALVES
Caldwell Machinery Co., Portland, Ore.

AIR MOTORS
Bobbs Air-Draulics, Inc., Ray, Portland, Ore.
Gardner-Denver Co., Quincy, Ill.; Seattle; Portland; San Francisco; Denver, Colo.; Dallas, Texas
Salem Equipment & Supply Co., Salem, Ore.

APPRAISALS
General Appraisal Co., Seattle; Portland; San Francisco; Los Angeles; Spokane, Wash.; Vancouver, B. C.

AUTOMATIC SETWORKS
See "Setworks, Automatic"

AXLES
Axle Division, Eaton Mfg. Co., Cleveland, O.
Timken-Detroit Axle Division, Detroit, Mich.

BARKERS
Ederer Engineering Co., Seattle, Wash.
Filer & Stowell Co., Milwaukee; Portland
L-M Equipment Co., Portland, Oregon
Nicholson Mfg. Co., Auburn, Wash.
E. V. Prentice Co., Portland, Ore.
Sumner Iron Works, Everett, Wash.; Vancouver, B. C.
Soderhamn Machine Mfg. Co., Talledega, Ala.; Portland, Oregon

BEARINGS
Bearing Sales & Service, Inc., Portland, Ore., Seattle, Wash.
Dodge Manufacturing Corp., Mishawaka, Ind.
Link-Belt Co., Seattle; Portland; San Francisco
Schafer Bearing Div., Chain Belt Co., Downers Grove, Ill.
Timken Roller Bearing Co., Canton, Ohio

BELTING and PACKING, Belt Accessories
B. F. Goodrich Co., Akron, Ohio; Portland; Seattle
Goodyear Tire & Rubber Co., Akron, Ohio; Portland; Seattle
Manhattan Rubber Div., Raybestos-Manhattan, Passaic, N. J.
Scougal Rubber Mfg. Co., Seattle, Wash.
Mechanical Rubber Goods Div.—U. S. Rubber Co., New York City, N. Y.; Atlanta, Ga.; Portland; San Francisco

BITS and SHANKS
E. C. Atkins Div. of Borg-Warner, Indianapolis, Ind.
R. Hoe & Co., New York; Portland; Birmingham, Ala.
Pacific Saw & Knife Co., Portland
Simonds Saw & Steel Co., Fitchburg, Mass.; Portland

BLOWPIPE SYSTEMS
American Sheet Metal Works, Inc., Portland
Anderson Blowpipe & Mfg. Co., Seattle, Wash.
Archer Blower & Pipe Co., Portland, Ore., and Seattle, Wash.
Conveyair Company Ltd., Vancouver, B. C.
Medford Blowpipe Co., Medford, Ore.
Rader Pneumatics, Inc., Portland; Vancouver, B. C.

BOILERS
F. E. Balden, Portland
Seattle Boiler Works, Seattle, Wash.

BOOM and Tug BOATS
L. S. Baier and Associates, Portland
Nichols Boat Works Co., Hood River, Ore.

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CEL CHOUT LUMBER COMPANY
CLARENDON FLOORING CO.
DIAMOND-GARDNER CORP.
DIERKS FORESTS, INC.
DIERKS, ARKANSAS
MOUNTAIN PINE, ARKANSAS
(2 units)
THE ROBERT DOLLAR COMPANY
FRED DRAPER LUMBER COMPANY
EAGLE LAKE SAWMILLS LTD.
ECLIPSE LUMBER COMPANY
R. H. EMMERSON & SON (2 units)
GILCHRIST TIMBER COMPANY
GRAY LUMBER COMPANY
HANSON STUDS
HARRIS BROS. LUMBER CO.
HILL LUMBER CO.
EDWARD HINES LUMBER COMPANY (3 units)
IDAPINE MILLS
INTERMOUNTAIN LUMBER CO.
Darby, Montana
Missoula, Montana
L. S. JONES TIMBER CO.
KINZUA CORPORATION (2 units)
LINDROTH TIMBER PRODUCTS
LORENZ LUMBER COMPANY
LOUISIANA LONGLEAF LBR. CO.
MALONEY-CHAMBERS LBR. CO.
MARTIN BROS. CONTAINER & TIMBER PRODUCTS
MEADOW VALLEY LUMBER CO.
MEDFORD CORPORATION
MOORE TIMBER PRODUCTS
MT. EMILY LUMBER CO. (2 units)
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OREGON LUMBER COMPANY
PACIFIC STUDS, INC.
PACK RIVER LUMBER COMPANY
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COLBURN, IDAHO
PESHASTIN LUMBER & BOX, INC.
RIVERSIDE LUMBER COMPANY
ROCKY MOUNTAIN TIMBER CO.
ROUGH AND READY LUMBER CO.
SAN POIL LUMBER CO.
SCHMIDT BROTHERS, INC.
SCOTT LUMBER COMPANY
SOUTHWEST LUMBER MILLS, INC.
Flagstaff, Arizona
McNary, Arizona (2 units)
TENSED LUMBER COMPANY
TULLOS LUMBER CO.
VAN DUZEN RIVER LUMBER CO.
WALKER LUMBER COMPANY
WARM SPRINGS LBR. CO.
WESTERN SKAGIT TIMBER CO.
WETSELL-OVIATT LUMBER CO.
WEYERHAEUSER TIMBER CO.
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Raymond, Washington
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CARRIAGES—Riderless—automatic
The Enterprise Co., Columbiana, Ohio
Mater Machine Works, Corvallis
Mill Equipment, Inc., Seattle
Sel-Set Machinery Corp., Salem, Ore.

CARRIAGES
Albany Machine and Supply Co., Albany, Ore.
Corley Mfg. Co., Chattanooga; Portland
The Enterprise Co., Columbiana, Ohio
Filer & Stowell Mfg. Co., Milwaukee, Wis.
Klamath Iron Works, Klamath Falls, Ore.
Klamath Machine & Locomotive Works, Klamath Falls, Ore.
Mater Machine Works, Corvallis, Ore.
Mill Equipment, Inc., Seattle
Prineville Machinery and Supply Co., Prineville, Ore.
Sel-Set Machinery Corp., Salem, Ore.

CARRIERS (also see Lift Trucks)
Gerlinger Carrier Company, Dallas, Ore.
Hyster Company, Portland; Seattle
Towmotor Corporation, Cleveland, Ohio

CASTINGS, Iron, Steel, Brass
Electric Steel Foundry Co., Portland; Seattle; San Francisco; Houston, Texas; Spokane, Wash.; Eugene, Ore.
Filer & Stowell Mfg. Co., Milwaukee, Wis.
Klamath Iron Works, Klamath Falls, Ore.
Klamath Machinery & Locomotive Works, Klamath Falls, Ore.
Link-Belt Co., Seattle; Portland; San Francisco
Western Steel Foundry Co., Seattle; Portland

CHAIN, Log Haul
Portland Chain Mfg. Co., Portland

CHAIN, Steel Roller and Malleable
Chain Belt Co., Milwaukee, Wis.; Seattle; Portland; San Francisco; Vancouver, B. C.
Jeffrey Mfg. Co., Columbus, Ohio; Seattle; Portland
Link-Belt Co., Chicago; Seattle; Portland; San Francisco
Moline Malleable Iron Co., St. Charles, Ill.; Portland; Tacoma
Portland Chain Mfg. Co., Portland; Seattle; Bellingham

CHIP HANDLING Equipment
American Sheet Metal Works, Portland, Ore.
Archer Blower & Pipe Co., Seattle and Portland
Conveyair Co., Ltd., Vancouver, B. C.
Medford Blowpipe Co., Medford, Ore.
Rader Pneumatics, Inc., Portland; Vancouver, B. C.

CHIPPERS
Carthage Machine Co., Carthage, N. Y.
Filer & Stowell Co., Milwaukee; Portland
Goodman Mfg. Co., Chicago; Portland.
D. J. Murray Co., Wausau, Wis.
Soderhamn Machine Mfg. Co., Portland, Ore.; Talladega, Ala.
Sumner Iron Works, Everett, Wash.

CHIP SCREENS
Carthage Machine Company, Carthage, N. Y.
Link-Belt Co., Chicago, Seattle, Portland and San Francisco
Soderhamn Machine Mfg. Co., Portland, Ore.

CLUTCHES
Dodge Manufacturing Corp., Mishawaka, Ind.

CONTROLS (air, hydraulic, electric)
Republic Electric & Development Co., Seattle
Valvair Corp., Akron, Ohio; Birmingham, Ala.; Seattle; Portland; San Francisco; Denver; Vancouver, B. C.

CONVEYORS
American Sheet Metal Works, Inc., Portland
Chain Belt Co., Milwaukee, Wis.; Seattle; Portland; San Francisco; Vancouver, B. C.
Electric Steel Foundry Co., Portland; Seattle, Spokane
The Enterprise Co., Columbiana, Ohio
Jettery Mfg. Co., Columbus, Ohio
Link-Belt Co., Chicago; Seattle; Portland; San Francisco
Manhattan Rubber Div., Raybestos-Manhattan, Inc., Passaic, N. J.

COUPLINGS (also see hose and couplings)
Falk Corp., Milwaukee, Wis.

CRANES, Overhead
Ederer Engineering Co., Seattle
Harnischfeger Corp., Milwaukee, Wis.

CRANES, Truck, Wagon
American Hoist & Derrick Co., St. Paul, Minn.
Baldwin-Lima-Hamilton Corp., Lima, Ohio
Bucyrus-Erie Co., South Milwaukee, Wis.
Harnischfeger Corp, Milwaukee, Wis.
Insley Manufacturing Co., Indianapolis, Ind.
Koehring Co., Milwaukee, Wis.
R. G. LeTourneau, Lonview, Tex.
Link-Belt Speeder Corp., Chicago, Ill.
Marion Power Shovel Co., Marion, Ohio
Northwest Engineering Co., Chicago, Ill.
Skagit Steel & Iron Works, Sedro-Woolley, Wash.
Thew Shovel Co., Lorain, Ohio
Washington Iron Works, Seattle, Wash.

CUTTERHEADS
Jones & Orth Cutterhead Co., Seattle; Memphis, Tenn.

CYLINDERS, Air and Hydraulic
Salem Equipment & Supply Co., Salem, Ore.

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Dodge Manufacturing Corp., Mishawaka, Ind
Republic Electric & Development Co., Seattle
Western Gear Corp., Lynwood, Calif.; San Francisco; Seattle; Portland; Spokane; Denver; Houston; Dallas, Texas

DRY KILNS and DRIERS
Blo-R-Dry, Inc., Portland, Ore.
Heat & Control, Inc., San Francisco (Conversion System)
C. M. Lovsted & Co., Inc., Seattle, Wash.
Medford Blowpipe Co., Medford, Ore.
Medford Machinery Co., Medford, Ore.
Moore Dry Kiln Co., North Portland, Ore.; Jacksonville, Fla.
Oregon Dryer Co., Portland, Ore.
Orr & Sembower, Reading, Pennsylvania

EDGE GLUING
Design Mfg. Co., Portland, Ore.
Ederer Engineering Co., Seattle, Wash.
Elliott Bay Plywood Machines, Seattle, Wash.
Mann-Russell, Inc., Tacoma, Wash.
E. V. Prentice Machinery Co., Portland, Oregon
Stetson-Ross Machine Co., Seattle, Wash.

ELECTRICAL EQUIPMENT, Motors, etc.
Northwest Syndicate (Mann-Russell), Tacoma, Wash.
Portland Machinery Co., Portland, Ore.
Republic Electric & Development Co., Seattle
Square D Company, Los Angeles, Calif.
Weaver Co., Charles, Detroit
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

ELECTRIC DC DRIVES
Republic Electric & Development Co., Seattle, Wash.; Peoria, Ill.; Vancouver, B. C.
Zidell Machinery & Supply Co., Portland, Ore.

END PRINTERS
Irvington Machine Works, Portland
Stetson-Ross Machine Co., Seattle

ENGINES, Gas and Diesel
Allis-Chalmers Mfg. Co., Buda Division, Chicago; Dallas, Tex.; San Francisco; Houston, Tex.
Caterpillar Tractor Co., Portland; Seattle; San Francisco, Peoria, Ill.
Cummins Engine Co., Columbus, Ind.; Seattle; Portland
Detroit Diesel Engine Div., General Motors Corp., Detroit, Mich.
Ford Motor Co., Dearborn, Mich.
Harnischfeger Corp., Crystal Lake, Ill.
Industrial Div., Chrysler Corp., Trenton, Mich.
International Harvester Co., Chicago; Portland; Seattle, San Francisco
Murphy-Diesel Co., Milwaukee, Wis.
Waukesha Motor Co., Waukesha, Wis.; Los Angeles; Tulsa, Okla.
White Motor Co., Cleveland, Ohio

ENGINEERS, Forestry-Mill-Industrial
Industrial Development Co., Tacoma, Wash.
W. H. Rambo, Portland, Ore.

FANS & BLOWER SYSTEMS
Archer Blower & Pipe Co., Portland, Ore. and Seattle, Wash.

FILES
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Nicholson File Co., Providence, R. I.
Simonds Saw & Steel Co., Fitchburg, Mass.; Portland
Spear & Jackson Ltd., Vancouver, B. C.; Eugene, Ore.

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Hanchett Mfg. Co., Big Rapids, Mich.; Portland
Newman Machine Co., Inc., Greensboro, N. C.
Nielsen's Saw & Mfg. Co., Roseburg, Ore.
Samuel C. Rogers & Co., Buffalo, N. Y.
S. A. Woods Machine Co., Boston; Portland, Memphis, Tenn.; San Mateo, Calif.

FLOOR PLATE
Alan Wood Steel Co., Conshohocken, Pa.; Seattle; Los Angeles; San Francisco; Vancouver, B. C.

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Corley Mfg. Co., Chattanooga; Portland
Dominion Bridge Co., Vancouver, B. C.
Gang Saw Sales, Portland, Ore.
Jeddeloh Bros., Inc., Gold Hill, Ore.
Portland Machinery Co., Portland
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Sumner Iron Wks., Everett, Wash.
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Western Gear Corp., Lynwood, Calif.; San Francisco; Portland; Seattle; Spokane; Denver; Dallas and Houston, Texas
Western Machinery Corp., Portland

GRADE MARKING EQUIPMENT
Irvington Machine Works, Portland
Stetson-Ross Machine Co., Inc., Seattle

HARDBOARD plant equipment
American Mfg. Co., Tacoma; Vancouver, B. C.
Greenlee Bros. & Co., Rockford, Ill.; Seattle; San Francisco; High Point, N. C.
Grenco, Inc., Seattle, Wash.; Portland
Washington Iron Works, Seattle, Wash.

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D. J. Murray Mfg. Co., Wausau, Wis.
Portland Machinery Co., Portland
E. V. Prentice Co., Portland, Ore.
Sumner Iron Wks., Everett, Wash.

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Goodyear Rubber & Asbestos Co., Portland
B. F. Goodrich Co., Akron, Ohio
Goodyear Tire & Rubber Co., Akron, Ohio
Pacific Marine Supply Co., Seattle
Manhattan Rubber Div., Raybestos-Manhattan, Inc., Passaic, N. J.
Mechanical Rubber Goods Division, U. S. Rubber Co., New York City; Atlanta, Ga.; Portland; San Francisco

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Henry Disston & Sons., Inc., Philadelphia, Pa.; Seattle; Chicago
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Clark Equipment Co., Ind. Truck Div., Battle Creek, Mich.; Seattle; Portland; San Francisco
Gerlinger Carrier Co., Dallas, Ore.
Hyster Company, Portland; Seattle
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Towmotor Corporation, Cleveland, Ohio
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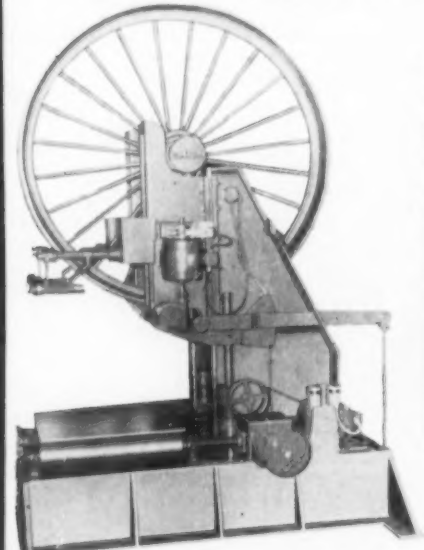

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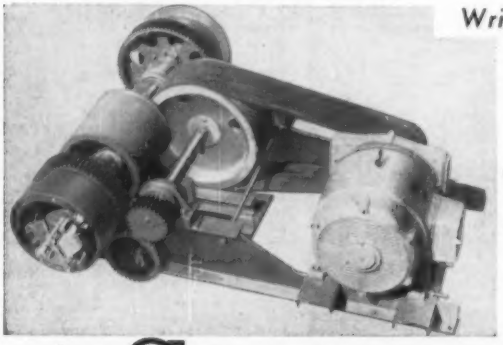

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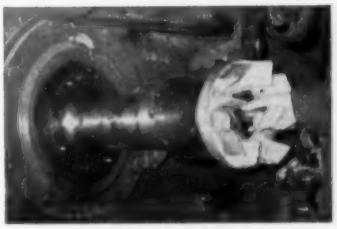
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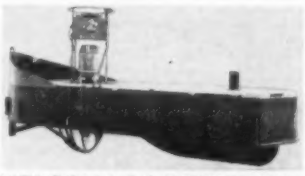
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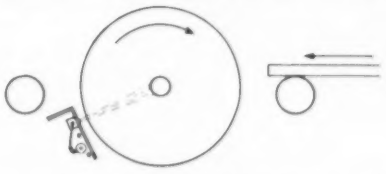
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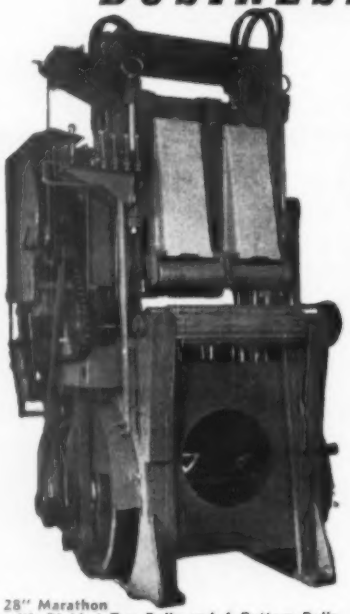

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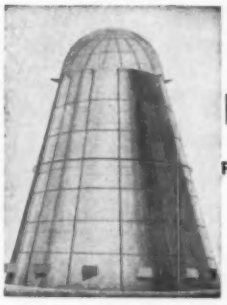

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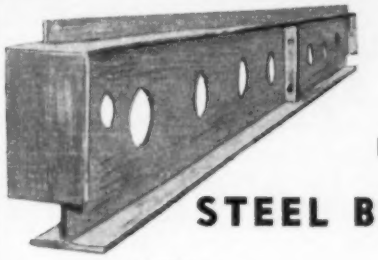

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1 All-steel log dump frame with heavy double drum winch, guy cables and blocks, complete
1 Heavy 4-arm log stop and loader, 16" Dia. x 36" stroke cylinder
1 Hill Nigger 8"x10"x60" stroke, spare bar and cylinder
1 9' roller bearing band mill, Diamond Model 120, electric guide motor and strain
1 Double saw hoist and saw catches
1 42" 4-block carriage, 72" opening, electric A. C. setworks
1 Large cutoff saw 48" saw, steel timber stops, 15 HP 900 RPM GE motor, sleeve bearing
1 42' gang air trimmer, belt driven, out feed rolls
1 Diamond hog #35
1 Large Covel round saw grinder
1 Covel #150 L band saw grinder
1 Covel stretcher roll and band saw anvils
1 Armstrong #4 L band saw grinder
1 Armstrong #4 stretcher roll and band saw anvils
1 Covel #120 band saw grinder
⅞"x6" round link conveyor chain with flights and drums
1⅛"x6" round link conveyor chain with flights and drums
Air and steam cyinder steam valves and standard pipe of all sizes
Shafting, sprockets, pulleys and bearings of all types, all sizes

POWER HOUSE
1 Sterling boiler, 3¼" water tube 3 drums
3 HRT fire tube boilers, 72"x18'—All boilers 150# steam
2 Large smoke stacks
2 5 HP forced draft wing fans (variable pitch blading) Size 15A EMD-5
2 Used steel ground tanks, 1 bolted type, 1 welded type. Each is 53' in Dia., 24' high. When full each holds approximately 500,000 gallons of water
1 5" Fix. K.B.F. 12" T5CEAG Impeller for pumping sawdust; Fairbanks Morse 10 HP 1200 RPM vertical motor mount
1 40 HP Fairbanks Morse type P 16½x10 Pomona turbine pump, underground discharge with 12'10"x1-3/16" water lubricator column and shafts. 2 stage 12 M.C. Bowl A impeller for 1400 G.P.M. at 85 TDH
1 Worthington 10"x6"x12" water pump, Duplex type
1 Worthington 10"x6"x10" water pump, Duplex type
1 Ingersoll Rand air compressor, 12¼"x12"
1 Upright Code air tank, 8'x36"
1 Westinghouse steam air compressor 11"x11"x12"
1 Westinghouse Air Brake Co. compressor size 8½ - 150
1 Sumner twin 16"x20" 212V 150 steam driven alternating current generator GE 300 KW 480 volt 60 cycle 3 phase with complete switch gear
1 Sumner twin steam engine 18"x24", 19V, 150# steam
1 Steel ground type water tank, 12' high x 19' Dia., ¼" plate, weld up tank
Various motors

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858 Pearl Street, Eugene, Ore.
P. O. Box 469
For full information, contact:
BUD KEENEY
Diamond 5-8533 or WHitney 6-1531
during business hours
Diamond 3-7882 evenings

WANTED
Good sawmill equipment. Will liquidate piecemeal or an entire plant.

Call CARROLL

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INSPECTIONS

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CApitol 2-1013

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WE CAN MANUFACTURE ANYTHING OF RUBBER
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PULPWOOD BREAKDOWN PLANT

at

RAYONIER PULP MILL, HOQUIAM, WASHINGTON

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GOLDSTEIN & BLOCH

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72" Carthage 10 knife chipper with 400 HP 300 RPM Synch. 2200 V motor
20'x54" Hydraulic Lathe Barker
Sumner 18"x16" Hydraulic Slab Barker
Allis Chalmers hydraulic Log Barker 18" Cap.
2—7½" face concave hand barkers
5—Byron Jackson high pressure pumps 500 GPM—2500' head
4—500 HP, 3600 RPM, 2200 V Motors
Lamb Splitter, size 11"x8'x8" OD rod
Twin vert. Band Saw 72" Filer & Stowell
Band Rip Saw, Yates R4 54"
Trimmer, 6 saw, 4' apart, 6x24 cyls.
Shotgun Feed, 14"x42', with 47/8" O.D. rod
Log Kicker, 3 arms, 15'x3 15/16" shaft with 14x36 steam cyl.
Log Stop, 3 arms, 14'x 4 15/16" shaft with 14" steam cyl.
Log Stop, 3 arms, 14'x4 7/16" shaft with 14" steam cyl.
Swing cut off saw, 12' swing steel frame 96" saw, BB arbor 8"x7" st. cyl.
Saw Anvil 12x48x5
Saw Anvil 10x36x5½
Worthington horiz. Air Compressor 393 CFD
Blower Fan 36" wheel, D.C. to 40 hp, 440 volt motor
Blower Fan 30"x8" wheel, D.C. to 10 hp, 1200—motor 440 volt
30 Western Reduction Gears

ROLL CASES
All steel frames, driven by RC chain and double cut sprockets
11— 8x24x1 15/16"—oil tight boxes
11— 8x24x1 15/16"—1¼" P x 47'
18— 8x24x1 15/16"—1¼" P
6—10x24x2 7/16" —1½" P
4—10x26x2 7/16" —1½" P
4—10x26x2 7/16" —1½" P
5—10x30x2 7/16" —1½" P x 20'
6—10x30x2 7/16" —1½" P x 26'
19—10x36x2 7/16" —1½" P x 77'
4—10x54x2 7/16" —oil tight boxes

CHAIN
840'—H 78
250'—H 78 R1 L1
530'—H 82
790'—H 82 Steel
720'—#124 SS
1340'—H 131
690'—H 138
380'—H 122
160'—#678

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Professional Services card in this space will reach over 16,000 regular readers each month.

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1/24th Rotary or Half Round

Quality—Fresh Logs—beautiful

Jamestown Mountain Birch
Mohawk White Maple
Appalachian Red Oak
Advise grades required and we will quote prices and delivery

Jamestown Veneer and Plywood Corp.
Jamestown 8—New York State

For sale . . . used 4 scrag mill, in operating condition, for logs up to 18" diameter and 8' long. Reasonable. Keystone Machine Works, P.O. Box 269, Roseburg, Oregon. Phone Orchard 3-6619.

C. S. HEINZ, JR., CONSTRUCTION CO.

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WRITE BOX 277, VERNONIA, OR CALL HAZEL 9-6741.

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SOFT MAPLE PANELS, edge glued, manufactured from Silver Maple.
Also CORE STOCK.
OAK BED RAILS, edge glued.

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Man with experience in plywood manufacture to manage veneer and plywood department of international firm specializing in all phases of wood utilization. Engineering degree and/or machinery sales experience desirable but not essential.

Write TL Box 344, c/o THE LUMBERMAN, 731 S. W. Oak Street, Portland 5, Oregon.

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Saw mill superintendent. Thorough knowledge of maintainance, manufacture and production. All western species. Will go anywhere. Excellent references. Age. 38.

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Will represent fir plywood mill. Can move about 15 cars per year in Minnesota—sanded and rough.

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Employees wanted: 1 filer to care for circular head saw, Linck gangsaw and 42" band resaw. (3" wide). Grade sawyer for riderless carriage, hydraulic turner. Good working conditions with top pay. Robert Mallery Lumber Co., Inc. Hancock, New York. Call 72561 collect.

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Lumberman, thoroughly qualified as manager or comptroller in both logging and manufacturing, any size operation. Expert at cost control, experienced in government relations. Particularly interested in Rocky Mountain area, but will go elsewhere.

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Good grade and production man. Best references. Available January 1st.

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As West Coast buyer for well-rated lumber wholesaler. Sober, reliable, bondable. Available January 15th. Thorough knowledge of all western species.

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Fourteen years experience Lumber Mfg. & re-mfg., logging and plywood. Fir & Pine operations Oregon and California. Capable supervising office, operating—financial statements, cost accounting. Executive background. Excellent references.

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FOR SALE

Operating Idaho Stud Mill 40M shift capacity with planer, dry kiln and siding. Fully equipped. For further information,

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FOR SALE OR LEASE
"LOW-TEMP" ROTARY DRYERS
For Drying Woodchips, Shavings & By-Products
ALSO
PNEUMATIC "AIR-CONVEYOR" SYSTEMS
Vacuum & Hi-Pressure. Any Size or Product.
Engineers & Manufacturers
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SAWMILL FOR SALE

Complete sawmill machinery for sale—electric powered 9 ft. band with resaw, 12 inch shotgun, combination Simondson & Nigger, 12,000 ft. per hour capacity. Mill located near Placerville. Recently appraised depreciated value $270,000.00. Any reasonable offer will be accepted.

PLACERVILLE LUMBER CO.
P. O. Box 752, Placerville, Calif.
Phone: NAtional 2-3385

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Alterations—additions—machinery installations or complete mill.

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Phone BUtler 9-4379

MYERS POLE SHAVERS

Electric drive with Hydraulic head lift and Pole feed controls. Also skid mounted for engine driven portable use in the woods.

Claude Myers **Troy, Montana**

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By Established New York Sales representative, on Commission Basis. Continuous volume business available.

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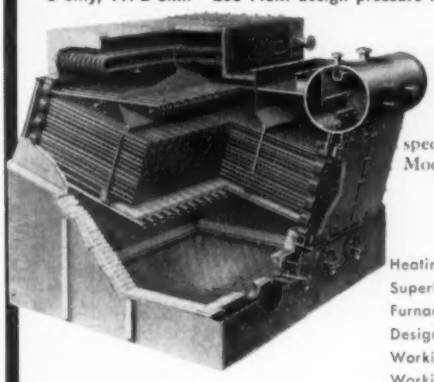
6 only, TYPE S.M. – 250 P.S.I. design pressure meets A.S.M.E. code requirements

Surplus, Excellent Condition



Manufactured by Combustion Engineering Co., Inc. Presently located and available for inspection at Zidell Dock, 3121 S. W. Moody Street, Portland, Oregon.

DESIGN DATA

Heating Surface, Sq. Ft.	4,852
Superheater Surface, Sq. Ft.	264.5
Furnace Volume, Cu. Ft.	780
Design Pressure, Lb. Sq. Inch	250
Working Press. at Drum, Lb. Sq. Inch	230
Working Press. at Superheater Outlet, Lb. Sq. Inch	220
Safety Valve Setting—S.H., Lb. Sq. Inch	230
Normal Evaporation Rate, Lb. Steam per Hr.	24,000
Final Steam Temperature, Deg. F.	450°
Feed Water Temperature, Deg. F.	220°
Weight of Water to Steaming Level, Lbs.	14,600
Oil Burners, Pressure Atomizing Type, Number	4

WEIGHTS AND DIMENSIONS

Weight of Complete Boiler, Lbs.	120,760
Weight of Water (hot) per Boiler, Lbs.	14,600
Weight of One Superheater, Lbs.	9,500
Weight of One Steam Drum, Lbs.	10,000
Weight of Brick, Lbs.	24,969

TUBES

	Number	O.D. in Inches	Wall Thick., BWG
Boiler Generating	58	4	6
Boiler Generating	602	2	10
Circulators		4	6
Downtake Nipples		4	6
Superheater	22	2	10

EASILY ADAPTABLE TO HOG FUEL

FOR FURTHER INFORMATION AND QUOTATION
CONTACT: A. H. NEUMEISTER

ZIDELL EXPLORATIONS, INC.

3121 S. W. MOODY ST. • PORTLAND 1, OREGON • CA 8-8691

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A

Acme Steel Co. 21
Aeroquip Corp. 48
Albany Machine & Supply Co. 65
Allied Northwest Machine Tool Corp. 63
American Sheet Metal Works, Inc. 54
Anderson Blowpipe & Mfg. Co. 65
Archer Blower & Pipe Co. 65
Armstrong Mfg. Co. 53
Associated Business Publications 26
Autocar Div., The White Motor Co. 22

B

Balden Co., F. E. 63

C

Caldwell Machinery Co. 63
California Blowpipe & Steel Co. 65
Carlson, Carl I. 71
Carroll Machinery Co., Clyde P. 70
Carthage Machine Co. 57
Champion Friction Co. 63
Coe Mfg. Co., The 58
Columbia Rubber Mills 63
Corley Mfg. Co. 15, 58

D

Davies, E. C. 65
Dodge Mfg. Corp. 24
Dodge Trucks 8

F

Federal Pipe & Tank Co. 66
Filer & Stowell Co. 4
Fischer-Marcola Co. 69
Franciscan Hotel 56

G

Gardner-Denver Co. 13
General Appraisal Co. 44
General Petroleum Corp. 2
Goldstein & Bloch 70, 72
Greenlee Bros. & Co. 20

H

Heinz, Jr., Construction Co., C. S. 71
Hough Co., The Frank G. 9
Howard-Cooper Corp. 16
Humboldt Machine Works 67
Hyster Sales Co. 63

I

Industrial Development Co. 70
Industrial Saws & Supplies 15
Industrial Service Co. 67
Industrial Supply Co. 66
Irvington Machine Works Cov. 2

J

Jamestown Veneer & Plywood Corp. 71
Jones & Orth Cutter Head Div., R. Hoe & Co., Inc. Cov. 4

K

Keystone Machine Works 65, 71
Klamath Iron Works 62
Klamath Machine & Locomotive Works, Inc. 58
Kleiver Machine Co. 63

L

Luster Engineering & Machine Works 67

M

Mallery Lumber Co., Inc., Robert 71
Mater Machine Works, Inc. 58
Mill Equipment, Inc. 64
Moline Malleable Iron Co. Cov. 3
Moore Dry Kiln Co. 12
Myers, Claude 71

N

Nelson Log Bronc Co. 67
Nicholson Mfg. Co. 70
Nolder Co. 71
Northwest Chains & Sprockets, Inc. 67
Northwest Chair Co. 72
Northwest Engineering Co. 1

O

Ohio Knife Co., The 56

P

Pacific Saw & Knife Co. 63
Phelps Bros. 63
Placerville Lumber Co. 71
Portland Chain Mfg. Co. 57
Portland Machinery Co. 68

R

Rader Pneumatics, Inc. 58
Rambo, W. H. 67
Raybestos-Manhattan, Inc., Manhattan Rubber Div. 23
Robertson Mfg. Co. 71
Roediger & Co. Ltd., Joseph 15

S

Salem Equipment & Supply Co. 66
Sawyer Machine Works 70
Scougal Rubber Mfg. Co. 70
Seattle Boiler Works 69
Sel-Set Machinery Corp. 56
Simonds Saw & Steel Co. 3
Smythe Co., Ray 63
Soderhamn Machine Mfg. Co. 52
Spear & Jackson 55
Standard Oil Co. of Calif. 7
Stetson-Ross Machine Co., Inc. 25

T

Thompson & Holmberg, Inc. 70
Towmotor Corp., Gerlinger Carrier Div. 17
Tyee Machinery Co. 72

V

Valvair 19
Vollmer-Werke Maschinenfabrik GmbH 15

W

Ward Construction Co., Inc., M. A. 70
Washington Iron Works 18
Weaver Co., Inc., Charles 69
West Salem Machinery Co. 72
White Motor Co., Autocar Div. 22
Williams-White & Co. 55
Wood-Mosaic Corp. 44
Woods Machine Co., S. A. 27

Z

Zidell Explorations, Inc. 69, 71

While every precaution is taken to insure accuracy, we cannot guarantee against the possibility of an occasional change or omission in this index.

USED MACHINERY VALUES

15" Stetson-Ross 6-12-A1 P&M, dbl. profile, electric, 12-knife.
15" Yates-American A-62 P&M, dbl. profile, electric, 10-knife.
16" x 20" Stetson-Ross timber sizer.
4" Yates C-88 electric moulder.
6" Mattison No. 272 electric moulder.
12" Vonnegut electric moulder.
12" Berlin 6-head moulder.
42" Turner tilting band ship saw, 15 HP.
52" Turner twin r.b. band resaw, electric.
Moore tilting hoist, 48" x 54" x 22'.
3 Moore dry kilns, cross circulating.
21' capacity Greenlee No. 545 elec., d.e. tenoner and end matcher, dado attach.
Irvington-Hill 5 HP cut-off saws.
Diehl No. 750 straight line rip saw, b.b, m.d.
50" x 98" high frequency edge gluer.
49" Yates 8-drum sander, motor driven.
400 HP Riley water tube 270-lb. boiler.
All steel husk with top saw arbor, 6" belt feed-works, two 60" and one 50" I.T. saws.
No. 101 Stetson-Ross 25" x 6" fast feed double surfacer. No. 35 PSMD fuel hog, rebuilt.

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1924 First Avenue South **Seattle 4, Washington** **MUtual 2-5881**

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At Mill See
Herb Robinson, Tacoma, SKYLINE 2-3546

In Aberdeen See
Harry Goldstein

DONALD W. LYLE LUMBER COMPANY
3939 Ruston Way
Tacoma, Wash.

Being Liquidated By

GOLDSTEIN & BLOCH

Phone Ab. 1234 **P. O. Box 33, Aberdeen, Wash.**

SAWMILL

2 Log Hauls—330' 1⅛x6 chain
2 Log Kickers, 10"x22" air cyl.
Gang 36"x24", Mill Engineering
Gang 24"x20", Mill Engineering
Edger, 10x60 Portland I.W. Ball Bearing
Slasher, 5 saw, 4' spacing
Trimmer, 30' Prescott Mechanical
Sorting Table, 1100' Moline roll top
Rip Saw, Circular, power feed

FILING EQUIPMENT

S.A. Woods #226 Knife Grinder
#784 Hanchett Grinder
#120L Resaw Grinder
#119 Covel Gang Gummer
#53 Armstrong air swage
#810 Armstrong stretcher rolls
16x48x5 Anvil

PLANING MILL

Hydraulic lift to Planer
Side head Jointer, Philbrick
Blower, 5' fan with 60 HP motor
6' cyclone

MISCELLANEOUS

Hammerhead crane, 4 ton capacity
#45 Diamond Hog
IR Compressor, 75 HP motor
36" blower fan
230'—35# rail

SHOP

300# Anvil
21" Drill press
Clarke Lathe, 18" swing x 7' bed
Hack saw, homemade.

MACHINERY FOR SALE

1 complete set of No. 4 Trout Set Works. Good Condition.

NORTHWEST CHAIR COMPANY
P. O. Box 1115
Tacoma, Washington

MAKE BETTER LUMBER and PRODUCTION IN 1959 WITH THE FOLLOWING EQUIPMENT

1—American #77 A-1 planer & matcher, 6"x15" opening, 8 knife round heads, babbitt bearings, belt driven, **$3500.**

3—Yates #91 planer & matcher, 6"x15" opening, 6 knife round heads, babbitt bearings, belt driven hoods, Yates F-2 feed table, **$3500.** One with profile, **$4500.**

2—Berlin #16 timber sizers, 16"x30" opening, belt driven, 6 knife round heads, babbitt bearings, **$1750.**

1—Sumner 7' band resaw, roll feed, 12"x37" capacity belt feed, serial #863, roller bearings, 4 saws available, **$7500.**

1—McDonough 6' band resaw, roll feed, 12"x20" capacity, 7½" wheel face, roller bearings, v-belt drive, two extra saws, **$3500.**

1—Sumner 12"x60" edger, power set works, 6-¼" arbor, 5 saws & collars, direct drive, babbitt bearings, **$3750.**

1—Sumner 10"x72" stud edger, 3-15/16" arbor, roller bearings, divided press rolls, lift cylinder on press rolls, **$3250.**

1—New Prineville 6"x48" Eastern type edger, 3-15/16" arbor, roller bearings, double infeed and outfeed, 10' steel feed table, 4 shifter arms, **$3500.**

1—New Prineville stud edger, double feed rolls, roller bearings, 6 saws gang collar, 2 stationary collars, air lift on cylinder on press rolls, **$2750.**

Write or Phone for Complete List

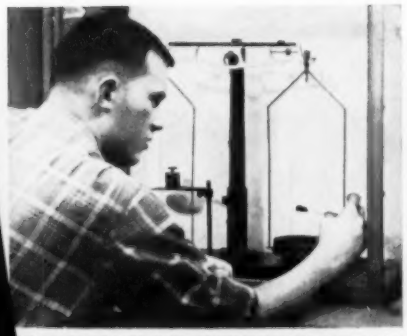
WEST SALEM MACHINERY COMPANY

7th & Murlark Sts. **Salem, Oregon**

Ph. EM 4-2213

Only Moline Chains measure up to this triple test for quality!

1. Link by link gauging and inspection
2. Pitch testing of "limbered" strands
3. Stressing to prove strength and shock testing



*All chains measure up to "manufacturers' standard"** but only Moline Malleable Chains measure up to the high standard of quality established by Moline. And only Moline Chains are subjected to triple testing—an exclusive quality control procedure that entails nine separate tests and a total of fourteen operations.

Only Moline has specialized in the manufacture of malleable chains. Moline Malleable Chains are produced in one of the most complete and modern continuous-flow plants in the United States.

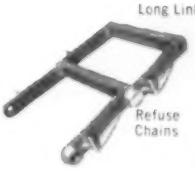
All these facts are your assurance that Moline Chains will give efficient, trouble-free service for conveying, elevating and power transmission under the toughest working conditions.

Call your local distributor listed on the opposite page for information and immediate service.

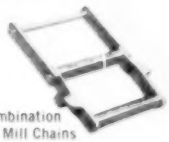
Pangborn Flights

Log Chairs

Long Link Chains



Refuse Chains



Combination Type Mill Chains

MOLINE DOES NOT COMPETE WITH ITS CUSTOMERS

Leaders for 60 years

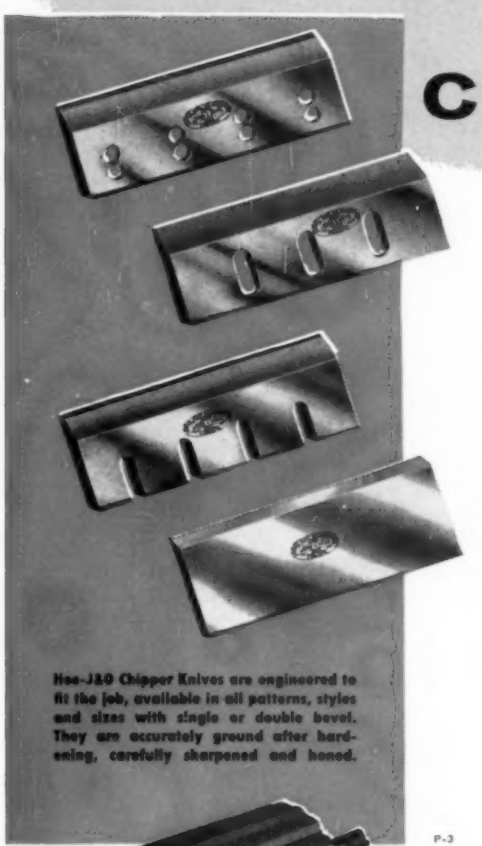
Moline Chains

for conveying, elevating and power transmission

MOLINE MALLEABLE IRON CO., St. Charles, Illinois

*A standard of design and dimensions to permit interchangeability with standard chains of other manufacturers.

Any CHIPPER does a better job with HOE-J&O "BONUS BUILT" CHIPPER KNIVES



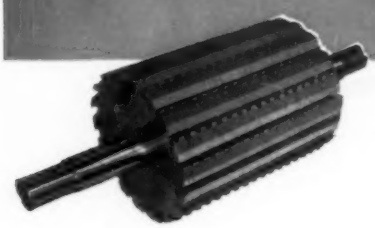
Hoe-J&O Chipper Knives are engineered to fit the job, available in all patterns, styles and sizes with single or double bevel. They are accurately ground after hardening, carefully sharpened and honed.

You're in the chips . . . but RIGHT . . . with Hoe-J&O Knives in your chippers! Hoe's 130 years of specialized experience pays off for you in *top* daily tonnage, in *longest* runs between sharpenings, plus consistently *lowest* net cost per ton of chips produced!

HOE-J&O Knives are built to fit all makes of chipping machines. They're made from our own special analysis steel, precision heat treated to stand up under the heaviest possible feed and produce uniform chips, while assuring maximum safety in operation.

Today, when every dollar counts TWICE . . . it's just good business to find out how Hoe-J&O knives plus our "follow-through service" can better your chip production profits. Call or write your nearest Hoe-J&O Industrial Distributor or Factory Service Center TODAY!

When you need technical assistance . . . "Buzz" Hoe.



Large custom-built 24" diameter J&O waferizing head for the high-speed, precision production of chips for particle board manufacture.

P-3

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JONES & ORTH

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